

APPENDIX D

The following DNA sequence was identified in *N. meningitidis* B <SEQ ID NO. 1068>:

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 GCGGTTTCGCGGTAGCGGGTGTGATCGGCGTGTCTTTTGGCTGAAGCCGGCAGCGAGG
 GACGTGCCGGCGGCGAGTGCGAGCAGCAGGAGGGCGGTGCGGCGCATAAGTTTCTCCAAA
 25 TTGAAAACGGCGTTATTTTATGGGTTGGCAAAGGGGGCTGCAAGCAACTGGGGTATAATC
 TCCCCCGATTCCCATTTTAAACGGTACAAACGATGAACAGCGAAACTTTAGACGTAA
 CCGGATTGAAATGTCCCTGCCGATTTTGGCGGCGATAAAGGCTTTGGCGCAAATGCAGC
 ACGGCGACCTG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 38>:

gnm_38

AGACAAACTTTTTGAACAGCATGACGGCAAACCTCGAAAGCATGGACGGGCGGGAACAGGA
 GCTGGATTTGATTTGGCGGACAGAAGCCGATATCGGTAACGGCAGCATACTGCAATTTGT
 35 CTGCAACTGGGGTTTCCCGCCGCGCCGAAAGACCTGTTCCGTTCTGAAAAAATCGGCG
 CGGTACACAGCGCAATGCTGATCCATCGGGCGGCGAGCGCATTGGACAAAGAAATCCGCC
 GCCTCCAATCGGAAGGTAAAAACCTGAAAGAAATGTGGGATATAACATCTCGACAACAAA
 ACCGCTCACTGCTGAACAGTCTGGATGAACAATATTGGCAAGACCCCGACAACTGTAT
 CTGCTGGGATGGCAATACTATTCCAGCAACCCTGTTCCAGACGGTGGCGGATTCGCATTTG
 AAGTGCAACTTTCCCTAACAGAAAAAGGCCAGTATGCGGTAGCATACGGCCTTTCTTGCA
 40 AGAAAGATTGCCATGAGCTACACGCAACTGACCCAAGGCGAACGATACCACATCCAATAC
 CTGTCCCGCCACTGCACCGTCACCGAAATCGCCAAACAGCTGAACCGCCACAAAAGCACC
 ATCAGCCGCGAAATCAGACGGCACCGCACCCAAGGGCAGCAATACAGCGCCGAAAAAGCC
 CAGCGGCAAAGCCGGACTATCAACAGCGTAAGCGACAACCTATAAGCTCGATTTCGAG
 CTGATTACGACACATCGACCCCTTATCCGCGCAAACCTCAGTCCCGAACAAAGTATGCGCC
 45 TACCTGTGCAACACCAACAGATCACGCTCCACCACAGCACCATTTACCGCTACCTTCGC
 CAAGACAAAAGCAACGGCAGCACGTTGTGGCAACATCTCAGAATATGCAGCAACCCCTAC
 CGCAAACGCTACGGCAGCACATGGACCAGAGGCAAAGTACCAACCGTGTGCGCATAGAA
 AACCGACCCGCTATCGTCGACCAGAAATCCCGTATCGGCGATTGGGAAGCCGACACCATT
 GTCGGCAAAGGACATAAAAGC

50

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 39>:

gum_39

CCGGCAAACACCGGCGCGTCCCATCCGTGCAGAAAAAGGATACGGAAAAGGATAAACGC
CATAACGTGCGGCGTTTGGCTATAATCCGCCCCCTTCATTACCGCAGCCCGCCGAAAGATGC
CGATGGCAAAACCGCTCAAATACCCCGTTTCCGCACTGGTTCGTCTTTATAGCGGGGACG
5 GCGGCATCCTGCTCATCGAACGCACGCATCCGGAAGGATTTTGGCAGTCGGTAACCGGCA
GCCTCGAACCGGGCGAAACCGTCGCCCAAACGGCAAGCGCGGAAGTTTGGGAAGAAACCG
GCATCCTGCTGGCGGACGGGCAGCTTCAAGACTGGCAGCAGCAGCAGCTTTACGAAATCT
ACCACCACTGGCGGCACCGCTATCCAAAAGGCGTGTGTGAAAACCGCGAACACCTCTTCT
CTGCCGAAATCCCGCGTGATACGCCCATCGCCCTGCAACCCGAAGAACACGTCTCCTACG
10 GTTGGTTCGATATGGAAGAAGCAGCGGAAAAAGTATTTTCCCGTCCAACAGGCGCGCGA
TTTTGGAACTGGGCAGGTTTTTGGGCAAACGGTAACACGCGCCCGTACACCCCTTTCAGAG
GCATCGGGCGCATTTTCAGCCGGACGTTTGTGCTATACTTTCAAACCTCACACTTTCCCA
AACAAAGGAAACCAAATGGCAGACTTCAACCAAATCCTGACCCCGGCGACGTGGACGGC
GGCATCATCAACGTTGTCAACGAAATCCCGCGCGGACGCAACCACAAAATCGAATgGAAC
gCAAACCTGgCCGCATTCCAACCTCGACCGCGTCGAACCCGCCATCTTCGCCAAACCGACCA
15 ACTACGGCTTCATTCCCCAACTTTGGACGAAGACGGCGACGAATTGGACGTGCTGCTCG
TTACCGAACAACTTTGGCAACCGCGTATTCTTGAAGCGCGCTTATCGGCGTGATGA
AATTGCTTGACGACGGCGAAGTGGACGACAAAATCGTCTGCGTTCTTCCGACGACCGCA
ACAACGGCAACGCTACAAAACCTTTGTCCGATTTGCCGCAACAGCTCATCAAACAAATCG
20 AGTTCCACTTCAACCATTACAAAGACCTGAAAAAGCAGGTACGACCAAAGTCGAATCGT
GGGCGGATGCGGAAGAAGCGAAAAAGTCATCAAAGAATCCATCGAACGTTGGAACAAAC
AGGCATAACGCCCGCCATGCCGTCTGAACGCCGTTTCAGACGGCATTTTTCCAAGCTCTA
GGGAATACCGTCCCAATCGGCTATAATCCGAACATACCGTTTCCGACCGAACGCCATGAA
CCGCCGAAAAATCTATCTGTTGCTGTTGCCCTCTTCACTGGCATTATGCTGCTCGT
25 CCTCTTGGGTGCTTATCTGCTGACCGTCGGCAGCAAAGCCTTCGCCGTCGCCTCCTTTCT
TTTCGCATTCGGCGCACTGTTTCGGACAAATCGGCAGCCTCGCCCTCTACCTGCGGCACAA
ATCCCTACGCGCCGCCAATCCGCCACAAAGGAAAACCGCTATGTCTGAAAAACCGGAAA
AAATCGTTTTGGCAAGCGGCAATGCCGGCAAGCTCGAAGAGTTCCGCAACTTATTCAAAC
CTTACATGCTTACCGTATTGCCGCAATCCGCATTTCGGCATACCCGAATGCCCGAACCT
30 ATCCACCTTTGTGCAAAACGCGCTGGCAAAAGCAGCCATGCCGCCAAATACAGCGGGC
TGCCCGCACTCGCCGACGACAGCGGCATCTGTGCCGCCGCTTAAACGGCGCGCCGGGCA
TCCATTCCGCACGTTACGCGGGCGACAATCCCAAATCCGATACCGCCAACAACCTGAAAC
TTGCCGCCGAACTTGTTCGGCAAGGCAGACAAAAGCTGCTGCTATGCTGCGTATTGGTTT
TTGTCCGCCATAAAGACGACCCGCGCCGATTATCGCCGAGGGCGTATGGCACGGGCACT
35 GGAACGACACGCGCTCGGGCAAAACGGTTTCGGTTACGACCCGATTTTTATCTGCCCG
AACACGGCAAAACCGCCCGAATTGGATACGGAGGTCAAAAACCGCAAGGCCACCGCG
CGCAGGCACTTGCCGAACCTTACGCAAACTCGCCCTTTAAACATCAAAACAATACAAAG
GAAAAAGAATGAAACCCATACGGAAAGCCGTTTTTCCCGTCGACGGGATGGGAACCCGCT
TCCTGCCCGCCACCAAGGCCAGCCCGAAAGAAATGCTGCCCATCGTCGACAAGCCGCTGA
40 TCCAATACGCCGTAGAAGAAGCGTGGAAGCCGCTGCACGGAAATGGTGTGTTGTTACCG
GACGCAACAAACGCAGCATCGAAGACCATTCGACAAGGCATACGAACTCGAAACCGAGT
TGGAATGCGCCATAAAGACAAATGTTGGAACACGTCCGCAACATCCTGCCGCCGAACA
TTACCTGCCTCTACATCCGTACGGCGGAAGCACTGGGCTTGGGACACGCCGTCTTGTGCG
CCCGCGCGCCATCGGAGACGAACCCCTTTGCCGTTATCCTTGCCGACGACCTGATTGATG
45 CCCCCAAAGGCGCGCTCAAACAAATGGTCAAGTGTACGGGCGCAGCGGCAACAGCATTT
TGGGCGTAGAAACCGTTGAAGCATCGCAAACCGGCTCATACGGCATCGTCGAAACCGAAC
AGCTCAAACAGTTCCAACGCATTACCGGCATTGTGCAAAAACCCAGCCCGAAGACGCGC
CCTCCAACCTTGCCGTTGTTGGACGCTACATCCTCACCCCGCGCATTTTCGACCTCTTAA
CCAATCTTCCGCGCGGCGCGGCAACGAAATCCAGCTTACAGACGGCATCGCCAAGCTGC
50 TCGATCACGAATTTGTCTTGGCGCACCCCTTTGAAGGTACGCGTACGACTGCGGCAGCA
AATGGGCTACCTCGAAGCCACCGCTACCGTCTGAAACATCCCGAAACCGGCGAAC
CCTTCCGCCGGCTTTTGGAAAAATACCGCACCGAATAACCCCATCAAGGAATCCTTATGC
ACGACAAAACCTGGTCCGGACGTTTCAACGAACCCGTTTCCGAACCTCGTCAAACAATACA
CCGCTCCATCGGTTTCGACCGACGGCTTGCCGAATGGGACATCAAGGCTCGCTGGCAC
55 ACGCGCAAATGCTGAAAGAAACCGGCGTGTGGACGAAGGCGATTGGCGGACATCCGCC
GGGGTATGGCGGAAATCCTCGAAGAAATCCGCAGCGGCAAAATCGAATGGTCTCGGATT

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5 TGGAAGATGTCCATATGAACATCGAACGCCGCTGACCGACAAAATCGGCGACGCGGGCA
AACGCTGCACACCGGCCGAGCCGCAACGACCAAGTCGCCACCGACATCCGCTGTGGC
TGCGCGACCAGATTACCGTTATACAAAGCCTGATTCAAAGCCTTCAGACGGCATTGCTGG
10 ATTTGGCGGAACAAAACGCCGAAACCGTCATGCCAGGCTTTACCCACCTGCAAGTCGCCC
AGCCCGTCAGCTTCGGACACCATATGCTCGCCTACGTCGAAATGCTCGGACGCGATAACG
AACGGATGGCGGACTGCCGCTGCCGCGTCAACCGTATGCCGCTCGGCGCAGCCGCCCTTG
CCGGGACGACCTACCCGATTACGCGCGAAAATCACCGCCGAGCTATTGGGCTTTGAACAAA
TCTGCCAGAACTCGCTCGATGCCGTATCCGACCGCGATTTCGCCATTGAGTTCACAGCCG
15 CCGCCTCGCTGGTTATGGTTCACCTGAGCCGCTGTCTGAAGAATTGATTTTGTGGATGA
GCCCGCGTTTCGGCTTTATCGACATCGCCGACCGTTTCTGCACAGGTTCTGTCATCATGC
CGCAGAAAGAAAACCCCGACGTGCCCGAACTCGTGCGCGGCAATCCGGCCGCGTCATCG
GACACCTTATCGGTCTGATTACCCTGATGAAATCCCAACCTTGGCGTACAACAAAGACA
ATCAGGAAGACAAAGAACCCTTGTTTCGACACCGCCGACACGCTTATCGACACGTTGCGGA
20 TTTACGCCGATATGATGCGCGCGTAACCGTCAAACCCGACAATATGCGCGCCGCCGTGA
TGCAGGGCTTCGCTACCGCCACCGACTTGGCGGATTATCTGGTCAAAAAAGGCATGCCTT
TCCGCGATGCCACGAAGTCGTGCCCCAAGCCGTGCGCCACGCCGACCAAGCGGGCGTCG
ATTTGAGCGAAGTCCGCTCGAAGTCTTACAAGGTTTCAGCGATTGATTGCCGACGACG
TTTACGGCGTGCTGACACCCGAAGGCAGCTTAAACGCCCGCAACCACTTGGGCGGTACCG
CGCCGGAACAAGTCCGCTTCCAAGTGAACGCTGGCGGGAATGTTGGCTTAACCCCCAA
25 ATGCCGCTCTGAAGAAATGTTTCAGACGGCATTTTAAAGGCAAGAACACGATGACCGATA
CGGATACCCAAGCCGACCGCTTCGAACAGATGATGTGGCAGGCGGTGGACAAACTTTTGT
AACAGCATGACGGCAAACTCGAAAGCATGGACGGGCGGGAACAGGAGCTGGTTTGGATT
GGCGGACAGAAGCCGATATCGGTAACGGCAGCATACTGCAATTTGTCTGCAACTGGGGTT
TCCCCGCGCCGAAAAGACTTGTTCCGTTCTGAAAAAATCGGCGCGGTACACAGCGCAA
30 TGCTGATCCATCGGGCGGCAGACGCATTGGACAAAGAAATCCGCCGCTCCATCGGAAG
GTAAAAACCTGAAAGAAATGTGGGATATAACATCTCGACAACAAAACCGCCTCACTGCTG
AACAGTCTGGATGAACAATATTGGCAAGACCCCGACAACTGTATCTGCTGGGATGGCAA
TACTATTCCAGCAACCCTGTTTCAGACGGTGGCGGATTTCGCATATAACGTGGGCCAATCTA
TGTATAATAGGAATTCAGAAGGAGTAGAAAAAGATAAGGGAATGAAAAATAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 40>:

gnm_40

35 CATGAAAATGCAGGCAGTTGTTGTGAATAAAAATGTAGCGGGCGATGTGGAAGTAATCGA
ACGCGAGGTTTCGCCGTTTGAATACGGCGAGGCATTGGTTCGAAGTCGAATATTGCGGCGT
GTGCCACACCGACCTGCACGTTGCGGCAGGCGACTACGGCGAAAAACCGGGCCGCGTGT
GGACACGAAGGCATCGGTTTGGTTAAAGAAGTTGCCGACGGTGTGAAAAATCTGAAAGT
CGGCGACCGCGTCAGCATCGCTTGGCTGTTCCAAAGCTGCGGCTCTTGCGAATACTGCAA
40 TACCGGCCGCAAAACCTGTGCCGTTCCGTATTGAACGCGGGCTACACCGCCGACGGCGG
TATGGCGACCCACTGTATCGTGAGTGCCGATTACGCGGTCAAAGTCCCTGAAGGTTTGGGA
TCCTGCGCAAGCTTCCAGCATTACTTGTGCCGTTGTAACCACTTATAAAGCCATTAAAGT
TTCCGGCGTTTCGTCGGGACAGTGGATTGCCATCTACGGCGCGGGCGGTTTGGGCAACTT
GGGGGTCCAATACGCGAAAAAGTATTCGGCGCGCACGTTGTGCCATCGACATCAACGA
CGACAAACTTGGCGTTTGCCTAAAGAAACCGGCGCGGATTGTTGTTGTCACGCCGCCAAAGA
45 AGACGCTGCCAAAGTGATTACAGAAAAAACCGGCGGCGCACACGCTGCGGTCGTAACCGC
CGTATCTGCTGCCGCACTCAACTCTGCCGTGAATTGCGTCCGCGCGGGCGGACGTGTGGT
TGCCATCGGGCTGCCGCCGGAATCGATGGATTGTCCATCCCGCGTTTGGTTTGGACGG
CATCGAAGTGGTTCGGCTCTTTGGTCCGCGACGCGCAAGATTGGAAGAGCCTTCCAATT
CGGCGCGGAAGGTTTGGTTGTGCCGAAAGTCCAATGCGTGCTTTGGATGAAGCACCCGC
CATTTTCCAAGAAATGCGCGAAGGCAAAATCACCGCGCGTATGGTGATCGATATGAAAA
50 AGAATGCGGCTGCGGCCATCACCACTGATTTGACGTGGCAGTACACATCGAAATGCCGTC
TGAACGCTGTTTCAGACGGCATTTTTATGGATTGGATTGATTTTAATCTGTTCTGTTT
GAAATACCGTCTGAAAACCCATATCGCAACACTTCATTAACGCGCAAGATTACGCCGT
TCTGCAACCCGTTCAAACGGCTCCGCCATTTCAACGCCTGTTGATGTCCACGGCGAC

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GACGCGCGAGACACCTTTTTCTGCATGGTTACGCCGACCAGCTGCTCCGCCATTTCCAT
CGTCAGGCGGTTGTGGGAGATGTAGAGGAACTGGGTTTGCGCCGACATTTCTTTGACCAG
CCTGCAGAAACGCGAGGTGTTGGCGTCGTCCAGCGGGGCATCGACTTCGTCCAAAAGGCA
5 GAACGGAGCGGGGTTGAGGCTGAACAGAGCGAACACGAGGCTCATGGCGGTGAGGGCTTT
TTCGCCGCCGAGAGGAGGTGGATGGTGTGTTTTCTTGCCGGGCGGACGCGCCATAAT
GGACACACCGGCGGTTCAGTAGGTGCTCGCCTATCATTTTGAGAGTGGCTTCGCCGCCGCC
10 GAACAGGGTCGGGAAGAAGTTTGGACTTTGCTGTTGACGGCATCGAAGGTTTCTTTGAA
ACGCGCTTTGGTTTTGTCTGCGATTGGGCGATGGCTTCTTCCAAAAGGGTGATGGCTGC
CTGCACTGCTTCGCTTTGGCTGCGGTAGTAGCCGTGCGCTTCGCGCGCTTCTTCGAGTTC
15 TTGCAGGGCGGCGAGGTTGACCGCGCCGAGTGCTTCGATTTGTTGCGAAAGGCTGCCGAT
GCTGCTGTTCAATACTTTTCGCGGATTCTTTCCGCAACGCTTCGAGCGCGTCCAAATCGGC
GGCGCGTTCCGTCAGGTTTTGATGGTAGCGTTTGGCGTTGATCAGGGCTTCCTGCTGCTG
CAACAAGGCGGTTTTGGGTGGCGGCTGAAGCTGCGGCAGCTTGGTTTGAGGGTTTGCA
TTAGCGTATTGCTCCCTGCCCTGTTTCTGAATCTGCGCGAGTTTCTCTTGACACAAAT
20 ATATTCTTCGTCCAAGGTCTGTACGGCTTCGCTTAATTCTTCAAGCTTGATGTGCTGCTC
15 GTCGTTTTGGAACTCGGTTTCATAGGCGAGGGCAAGCTCTTGCTGGCGTTCTGCCAGTC
GAGGGTTTGCTGTTCAAGCTGGGCGATTTGCTGCCGTTAGTTTTGTTTTGCTGGTTGAG
TTTGTGGACGGCGACTTCGCAAGCCCGTATTGGCGGTTGGCTTCCAACAGGGCAAGCTG
CGCTGTTTTAGACGGCCTTGCTGCTCTTGCGCGCTGTGCGCGGTGGTTTTGCTGCTGGTG
25 TTCGAGTTCGGCGGCGGCTTCCTGCAAGGTAACGATGTGCTCTGAAAGCCCGTCGGACGT
GTGTTGCAACACGCTCTGTTCTTCGCCAACTGCGCCAGTTTCGCGCTCGATGTGTTGCGG
GCGGATTTGCCCTTGGTTGGTACGCGCTAAGAGTTTCGGCGGCGGCTTGCTGTGCTTGACT
GTATTGGCGCGTGTGCTGCTGTTGCTGCTGCATCAGGTTTTATGTTGCACTTCAGACGA
30 GCGCACGGCAGCTTCGCGCTGTTTGAACGCGGCTTCGGCGGCGGAAAGTTCGGGGGCGAG
25 GTTTTCCAGTTCGGACGCGATGCCGTGAGGCGCGCTTTTTGGGCAATCAGGCTTCCTG
CGCGGGTTTTGGCATAGAGCAGGACGCTGACTTTATCGACCTGATGACCTTCGGGCGTGAG
CCAGATTTGGTGTGCGCCCAATCGTTTTGATGCGCGAGGGCATAGCTCAAATCGGGCGC
GCACAATACGCCGTCGAGCCAGTAGTGAATGCCGTCTGAAACGGCGGCTGCGCTGGAT
35 TTGGTTACGCACTGCTGTACGGCAGGATTTTTGATGCGCGCTGAGAGGTGCTCTGA
30 AAGCCATGCCGCTGCCCTGCGGCAAGGCTCGGGCGGCGACGAAACCTTGCGGCACGGC
GCGGGCGTGAGGCGTTTCGGCAAGAATGACGGACAAGGCGTGCTGCCACTCGCGGGGCGC
GGTGATGTGTTGCCACAGTTGCGGCGCGGCGGCGTGGTCGCTGCCAGAAATCGGC
GGCTTCCTGCTGTTGCGACAGGATTTGCGACAACGCTGCTGCTGCGCCTGCAAGGTGAT
40 GTGTTGCTGCTTCAGGCTTTGGAAGCGGTTTGAAGCCGCTCTGAAACGCTCGCGGGCGGC
35 GTGTAAGGCTTCTTCGGCGGCAATGATTTGTTCTTCGTAATGCTCTTGCTGACTTTGCAA
CAAGGCGGCTGCTTCTTCGCGGCGGCGGTTTCGGCTTCGTCGGGCGAGTTTAAAGGCTTG
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GGCAAGCTGCTGCTGCTTCAACGCCAGTTTCGCGGCGGATGCGGTTTGCTCGCTGCTG
45 GGTTTGAAGGCGGCGTTGAGCGTGGCTTGGGCTTCTTCCAATTCGGGCGAGCGCTCCTC
40 GTGTTGCGCAACCTGCATCGCCATTCGCCAGCTCGGTTGTTTTCTTCGACCTGCAA
CTCGTTTTCTTCAAGCTGCACGCGGATTTGCTGCTGCTCTTGATGAATGCGTTGTAAGT
CGCCTGCGCTGCCCTGCTTGTGCGCTTCGATGCGTTGGTGCAGGTTTTGCTGATGGCGGAT
TTGTTCTTCCAAACGGGCAATCTGCTCGCGCAACACGCCGCGCTTGTGCTCAATTCATG
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45 CTGAACCTGCGCGGCGGTTTCGTCTGCTGCGCCTGCAAAGATTGATGCTGCGCGGTGCG
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50 GTCTTTCAGACGACCTTCGCTCTCCTTGCGGCGTTCTTATATTTGGACACGCCCGCGC
CTCCTCGATAATAGGCGCGCAACTCCTCCGGCGCGCTTCGATGATGCGCGAAATCATCCC
CTGCTCGATAACCGGATAAACCGCGCGCGCCACGCCGTAACCCAGAAACAAATCGGTAAT
GTCGCGGCGGCGCACGGTCTGATTGTTGATGAAATAAGTCGATTGCGCCTGCCGCGTCAG
CTGCCGCTTGATGCTACCTCGGCATACTGCCCCACGCCCTGCAAATGTGGTCTGCT
55 GTTGTCAAACACAGCTCCACCGAAGCCTCGGCGCAGGACGGCGCGTTCGCCGACCGTT
AAAAATCACGCTCTGCATACTCTCGCCACGAAGCTGCTTCGCCGAAGCCTCGCCCAACAC
CCAGCGCACCGCGTCAATCACATTCGACTTGCCGACGCGGTTGGGCGCGATAACCGCGAC
AAGCTGCCCCGGCATGAATCGTGGTTCGGTTCGGTAAAAGATTTGAAGCCGAGAGTTT

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GATATGGGTCAGGCGCATAATGGTCGGAAAAAATAAAAAAGAAGCGTATTTTAACGGAAA
TCCCGCCGCACCACCCCATATCTTGGCGGCAAAACCTTACCGCATCCCGCACCTCGATG
CCGTCTGAAGCCTTCAGACGGCATTTTTAACGCGCCCGAACCCGGTTCCGCCAATGCCC
5 GATGCTTGGCGCGGCATTGTCCTATGCCCCGCCGCGGGCGCGTTATAATCCGCCCCG
ACATCCGCCCGATTGGAAACCTGCCTATGAAACCCGCCTATTTCAATTCGGACCTGCATT
TGAGCGAAAAGCAGCCCGAACTGACCGCGCTGCTGCTGCGTTTTTTACGTTCTTCCGCCG
CCGGGCAGGCGCGGGCGATTTACATTTTGGGCGATTGTTTGATTTTTGGGTGGGCGATG
ACGAAGTTTCCGAGTTGAATACTTCGGTTGCGCGTGAAATCAGGAAATGTCCGACAAAG
10 GCGTTGCCGTGTTCTTCGTAGGGGCAACCGCGACTTCTGATCGGTGAGGATTTTGGC
GGCAGGCGGGCATGACGCTGCTGCCGATTACTCGGTTTTGGACTTGTTCGGCTGCAAAA
CCCTCATCTGCCACGGCGACACTCTGTGTACAGATGACAGGGCATACCAACGTTTCCGCA
AAATCGTGATCGGAAGCGGCTGCAAAAACCTGTTCTTAATGCTGCCCTGAAGTGGCGCA
CGCGCCTTGCCACCAAAATCAGGCGTGTGAGCAAAATGGAAAAACAGGTCAAGCCCGCCG
15 ATATTATGGATGTCAATGCCGCTTTACCGCGCGGAGGTACGCGCCTTCGGTGGCGAAA
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TCGTTTTGGGCGACTGGCATAACGACTATGCTTCAATCCTCCGCGTGGACGGGGACGGCG
CGGTATTCGTGCCGCTGGAAAAATACTGAAATGCCGTCTGAAGCCTTTCGGGCGGCTTT
TTTTACACGCCCTTTCCACACTCCCTCCGCCGATCATCACTATCCTTAACCCGCATT
AATAGCCATTATCGATAAAATGCTTGACCGATTACATAAGATTACGTAAAGTGTGCAAAC
20 GCATAACAATTTGGTCTTACCAATTTATCTTTTAACCAAAATATCGGGTGACGGGATTTG
AACGTCTTCCAAACCTCGACGCGCCTTATGATGCAAAATGCCTAAAAAGGATTCTGTATG
GCACTTTTCTCAGCATATTTCCCATCGTCTGCTGATTGGCTGATGGTGAAAAAAAC
AGTATGCCCTCCTACGTGCGCTGCCGATTACCGCAGTGCTGATTTACGCCATCAAACCTT
TTCTACTTCGACGATGCGGGCATGCTGCTCAACGCCACCGCGCTTCCGGCCTCGTCAAA
25 ACGCTCAGCCGATTACCGTGATTTTCGGCGCGATTATGTTCAACCGTATGATGGAAACC
ACGGGCTGCATCGATGTCATCCGCAAAATGGCTGGCGACCATCAGCCCGAACCCCGTAGCG
CAACTGATGATTATCGGCTGGGCTTTTGCTTTATGATTGAAGGCGCATCCGGCTTCGGT
ACGCCTGCCGCGATTGCCGCGCCGATTCTGATGAGCTTGGGCTTCAACCCGTTGAAAGTG
30 ACCTGGTTCCGTTTTCGCACCGCTGAACCTGAGTGCCGAAGACATCCTCGCCATCGGCGAG
CAGACCGGCGTAATGCACCTCTTCGCGAGTTTCGTGATCCCCGTGATCGGCTTGGGCTTC
ATCGTACCTTGGTCTGAAATCCGCAAAAACCTTGGGCTTCGTGCCATTGCCGTCTTCTCC
TGCACCATTCCTTATGTCGATTGGCGATGGTCAACGAAGAATTCCTCGCTCGTCCGCC
GGCGCGATCGGCCTGATGGTGTCCGTATTCGCCGCAACCAAGGCTGGGGCTTGAGCAAA
35 GACCACGCCAAAGACCCGAATGCCGAAAAAGTGCCGTTCCGCCAAGTCGCCAAAGCACTC
GCCCTTTGGGTATGCTGATCGGCATGCTGGTGTTACGCGCATCAAACAGCTCGGCATC
AAAGGCATTTTGACCAGCAAAGAAGAATGGTTACGCTTCCAACCTGCCGTTTGATTTGTCC
AAAATCACCGCTCAGCGACTCCCTGACGATTACCTTCGGCAATATTTTCGGACAAGATGTC
AGCGCGTCTTACCAAACGCTGTACGTCCCGGCTTGATTCCGTTTGTGCTGACCGTTTGG
40 ATTTGCATCCTGCTGTATAAAACCAAATTCAAAGATGCCTGGACGATTATTCCGTAAAC
TTCAATCAAACCAAAAACCGCTGCTTGCCCTGATGGGCGCGCTGATTATGGTTCAGCTG
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GCGGGCGAACACTGGGTTTATTTCTCGCCGATCTGGGCGGATCGGTGCGTTCTTCTCC
GGTCCAACACCGTGTCCAACCTGACCTTCGGCCCGATTACGAGCAAAATCGCCTTGGAT
45 ACCGGCCTGTCCGTTACCCTGATTCTGGCGTTGCAGTCCGTGCGCGGCGGATGGGCAAT
ATGGTGTGCCTCAACAACATCATCGCCGATGTACCGTATTGGATGTGAAAAATTCGGAA
GGTGCGATTATCAAGAAAACCGTTATCCCGATGGCGATTTACGGCGTATTGCCGTGCTC
GCGGCAATGATTTTCTTCTTAGGCGAAACGCCACCATCCATAGCGGCAGCACGCGGGG
AACGGAAACCGCGCTTACCGTCTGGGCGGCGCGTCCGGCAGAAATCCCGGTGCCGGAACA
50 AGCCCCCCCCGCCAAACAAATGCCGTCTGAAACCGAAAAAGGCTTCAGACGGCATTTTTC
GCGGTTTGCCTTACGGCGTAATGATGATGCGGCATCTTGCGTCAAGGCGGTAGCGCGT
GCCGCAATACGGGCGAGCAACGCTGCCGATTCTCCTTCGCACAAAGGCAAAAACACTCT
CGGATGCCGTTTCCACTGCTCGTTGCCGGTCCCGAGCAATACAGCGGCAGATTTCCGG
CAACACGGAAATTTCTGCGGATTAGATTGTCCATTTGATTTTCTTTGCGTGGTTGGC
55 GTGCGCCTATTTTACGCCATCGGCAGGCTAAAGGATATTTTCGGCGCAAAGCCGCAATCC
GCTATAATCCCACTTTTCAGACGGCATACCATGACTGCGCTTACCCTTCCGGAAGACAT
CCGCCAACAGAGCCATCCGCCCTGCTCTATACCCTCGTTCCGCCTACCTCGAACACAC

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CGCCCAAACCGGCGACGAATCCCTCTCCTGCCTGTCCGACGACCAGCACACGCTGACCGC
ATTCTGCTACCTCGACAGCCAAGTCGAAGAAGGCGGCTTCGTGCAACTCATCGCATCCGG
TTACGGCGAATATATTTTCCGCAACCCGCTTGCCGACAGCCTGCGCCGCTGGAAAATCAA
AGCCGTGCCGAAAGTCTTGGACAAAGCCAAAGCCCTCTACGAACAACACGGCAAAACCAT
5 CGAAACGCTCGCCGACGGAGGCGCAGACATCCCTTCCCTGCGCAACAGTTCCTCGAATT
TGAAGAATGGGACGGCGCATACTACGAAGCCGCGGAACAAGACCTGCCCTGCTTGCAGA
ACACATACAGTCAAACCTGGGAAACCTTCGCCCATATCGGGCAGGCGTGATTGCGTCTGTT
TCCAGCCCGTGTAAAACAGCGTAAAATCGGCAAAACCCGAATGACCTTCCGTCCCCATCAA
GGAGCAAGCTATGTTCTTCAAGCACATCGAAGCCGCCCCGCGGATCCGATTCTCGGTTT
10 GGGCGAAGCGTTCAAAGCCGAAACCCGCCCCGAAAAGTCAACCTCGGCATCGGCGTTTA
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GTTGGAAAGCGAAACCAACCAAACTACCTCACCATCGACGGCGTTGCCGACTACAACGC
GCAAAACCAAACTCCTGCTGTTTGGCAAAGACCAGAAATCATGCCAGCCGTCGCGCCAA
AACAGCGCAAAGCCTCGGCGGTACGGCGCATTCGCTATTGCGGCCGAGTTTGCCAAACG
15 CCAGTTGAACGCGCAAACCATCTGGATTTCCAATCCGACTTGCCCAACCAACAACGCCAT
CGCCAAAGCGGTGCGTATCCAAGACAAACCTTATCGTTACTATGATGCCGCAACACGG
TTTGGATTGGGACGGCATGATTGAGGACTTGAGCCAAGCGCAAAAGGCGACATCGTCTT
GCTGCACGGCTGCTGCCACAATCCTACCGGCATCGACCTACGCCGAACAATGGGAAAC
TTTGGCAAACTTTCTGCCGAAAAGGCTGGTTGCCGCTGTTTGACTTTGCCTACCAAGG
20 CTTCCGCAATGGTTTGAAGAAGATGCCTACGGCTTGCGCGTGTCTTGAAACACAATC
AGAATTGCTGATTGCCAGCTCTTATTCCAAAAACCTTCGGTATGTACAACGAGCGCGTCGG
CGCGTTCACCTTTGGTGGCCGAAGATGAAGAAACAGCAGCCCGCGCCACAGCCAAGTCAA
AACCATCATCCGTACCTTGTATTCCAACCCGGCTTCACACGGTGCGAACACCATTTGCGCT
GGTGTGAAAAATGATGATTTGAAAGCACAATGGATTGCCGAACTCGATGAAATGCGCGG
25 CCGCATCAAAGCCATGCGCCAAAATTTGTGCGGTGCTCAAAGCCAAAGGTGCAAGCCA
AAACTTTGATTTCAATTATCAAACAAAACGGTATGTTCTCTTTCAGCGGCTTGACTCCCGA
ACAAGTCGACCGCTGAAAACGAGTTTGCCATTTATGCCGTCCGCTCCGGCCGCATCAA
CGTCGCCGGCATACCGACAACAACATCGATTATCTGTGCGAAAGCATCGTGAAAGTACT
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30 TTTTTTGTAAAAAACAATAAACCATAAACAATTTCAAACAAGCTAAAAACATCTATAAAA
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5 GTTTCGGA AAACTGTACGGCGATTTGATTATCTGCCCGCAAGTGGTTTTGAAAGAAGCC
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35 CTTTGAATCATTGCCGGGTGTGGGCGCAAAACGGCAAACGTCGTATTGAACACGGCGT
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40 GACCGCGCGCCCTTCAAATGAAACGCTTGAAAAATTCGGACGGACGTTGTAGAATTTT
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 41>:

gnm_41

45 GCAGGTCGTATCTAGAGGATCCCCGGCAATTTCCCTTTATCTGCTTTGAAAAACGGTGCA
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50 ACGACGCGTCCAGCGCAGGAATTGGCGCAAAAATGGTTGCAACAGTTTTGCGGACAAG
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5 TTGTTGATTTTGGACGAAGTTCAAACCGGGATGGGGCATAACGGGCAGGCTGTTTGCCTAT
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 42>:

gnm_42

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5 AATAAAAATGTTTCTTTATATGGTAATGACGGCAACGACACTCTAATCGGCGGCGCCGGT
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10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 43>:

gnm_43

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CGACCAGCGCAACTGCTCCCGATACGCCATACCTGCCCCGTCAGTACATAGGTTACACTGA
15 AGCGCAGCGTGAAATGCAGTGCAGGCAAAAGTCAAGGTTTTAAGCATCATCCTCTCCCGGA
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 30 GGAAGGATTGCAGGCTTTTGGCGAAATCCTGCGCGCCAGTGGGGACGGGACAGGTGCG
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 CGACCGGCCGGTCCGGGCCGTTGATGACGGATGTGTGCGGTTGCGGAAAGGTTTGGATGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 44>:

35 **gnm_44**

CCGGGTTAAGAAATGTACAAGCGGACAAAATATTTAATGGGTATCAAAGAATGACCTAC
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GTGTTGCTGTTTTTCGCCGCTGTAAACGCCACGCTTTCGGCGTGGTCGCGCACGCGGAT
35 GAGGGAATAACGGTAGTCGCCGTTGAGTTTTTCGTTTTTATAATTGTAACGAATCAAAGG
GTTGCCTATCCATGCGGATAAAGTTCGCCAAATCAGAAATATATAGACAAACCAAC
ATGCGCTGCGGAATGTGCAAGCCGAACACGGTCAGGATGCCAGCAAGCCCCGCAAAAC
AACGGCAAATTCAGAGAAGTAACGACCGAATTGACCATGCCGCGCACAAATTCGATGGT
CGAAGCGATAAATTCCTGCGCTCCTGTTGGATACGCTGGTCGATGTTGTCCGGCGCGTG
40 GCGGCGCATTTGAGGCGGTAGTAGTTTTTGTGCGCAAGCCAGCGTGCTGTGAGCACTTC
GTTGAGCCGCTCCGACCATTTAATCGCCAAGCCTTGATCGAGGAAGTCGTTGACGACGTT
GTTAAACGCCGATCAGCACCACGCCCGCTTCATTGCAGCAAACATCCAAAATGCCGA
AGCATTTCAAATCCTGCATCGAGTCGTAAAGCCCTTTGGACATAAAGGTACTCAACACAT
TCAGCCGCATTTTCGGTTAACACCAGCGTAATCATCGCCGTAATCAGCAGCAAGACTTTGA
45 CCGCGCTTTTCGGTGTCAGACAAAGCCAAAGCGGTGTGGAATAAAGCTCGGTTTGCCATT
TCTGCATGGGAAATTTCTTACGGTATCAATGCCGTCTGAAAAAGACGGGTACAGTTGATT
TTTTGATGAAGTTTGGGGAAGTTTTGCCGGTCAGGGTACATTGCGTGTTAATTTATAGTG
GATTAAATTTAAACCAGTACAGCGTTGCTTCGCCTTAGCTCAAAGAGAACGATTCTCTAA
GGTGCTGAAGCACCAAGTGAATCGGTTCCGTAATTTGTACTGTCTGCGGCTTCGTCGC
50 CTTGCTCTGATTTTGTAAATCCACTATACCATAACACCGCGGAATTAAGTTTAAAT
TTGAATAAAAGGTTTCGGGTTCTGCAAAATACAGAACCGAACCCTTGTTCGGATATTGAAA
CCGGCTGCCCGATTTTGGGCGGTGCGGCTTGCAAGTATCAAGATTTCGCATATGCCGCTG
AAGCTCGGAGAGGTTACAGACGCATATGCTTATTTGGGCTGCTCTTCAACGAATCTCGGA
CCTTTCAAGATGCCGTTGTGAGAAAGGGCGACAGCAGGTTGTATGCGGCGGTTTGGAA
55 ACCTGATAACCGCGGTGCGTCAGGCTGTTGGCAATCTGATTGACCACTGCGCTGACCAAA
GCCCCAACAGGCGCGTGTGCTGTTGCTGCTGCTTCGCGGATGCTGGCCGAACCCGAC
CACAACCTTTTCCGTTGCGGGAATCGACCAGCCGTGCTTTGGCGGATACGGTCGTCACG

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CTGTCTAAATTTGATATGAAGTGCCGTATTCGGTAACCGTAATGTACAAAACCGCATCA
 TTGCCGAAAATCTGATGCAGTTTTTCCGGCCGGACGGCGTGAATATCGGCGGCATTGGTC
 AAGCCGTTTTGTTGAAGGTTTCTCCACGACTGCGCGGGGAAGACGTAATAGCCGGCT
 5 TCGGAAAGCGGCGCGGGTCTGAAGCCAGTACACCCCATGTTCCGTTGACATCGGGCGAT
 TCGTTTACGGCGGAACCAAAATGAAGCCGTTTGCTTTCCTTGAATGACGTGTAG
 TCGAAATCGGGCGCTTTTTGAACTTGGCAGGCAGACAGCGCCAACACGGCGGCAAGCCCT
 AAAATCAAAGTTTTCATCGCTTGCTCTTTACCGGTTTTTCATCAGGAAGTCCATAAATA
 CGCCCGATTCTGGGAAACAGCCTTTCTCTTCTTCAAAGTGGCGGAACGCGCCCTCTTTGT
 10 CTCCCGAACGGGAAAGCAGCAGTCCCAGATGGGCGTGGCGACCCGGGGCGAGCATTTCATT
 TTTATTGTTGCCGnGCTTCCACAAAGGTATTTTTCCATTCTTTTCGGATCTGCTGTGCC
 AACGAAAGTGTCGTTCTGTTTTTCAAACCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 45>:

gnm_45

15 CGCGTCCAAATCAACcGCGACACCGGCGAATACCAAACCTTCCGCCGCTGGCTGATTGTC
 GCCGATGAAGcTATACCTATCCCGATGTCGAAAAAACCATCGAGGAAATCCAAGAGGAAA
 TTCCCGGCACTACCATCCAAATCGGCGAATACTACGAAGAGCAGCTGCCCAACGAAGGCT
 TCGGCGCGCAAGCCGCGCAACCGCCAAACAAATCATCTGCAACGCATCCGCGATGCCG
 AGCGCGAGCAGAATCTGAACGAGTTTCTCGCCGTCAAAGAAGACATCGTGTCCGGCACGG
 20 TCAAACGCGTCGAACGCCACGGCATCTGTCGAAGTCGTTGCCGGCAAACCTGGACGCGC
 TGATTCGCGCGACCCAAATGATTCCGCGGAAACTTCCGCGAGCGCGACCGCATCCGCG
 CCCTCTTCTGCGCGTCGAAGAAATCGGCAACACCGCGCGCAACAAAGTCATTCTGAGCC
 GTACTTCCGGCGATTTCTCGTCAAACCTGTACGCCAATGAAGTACCTGAAATTGCAGACG
 GCATGCTTGAAATCCGCGCTGTCGCCCCGCGACCCGGGACAACGTGCCAAAGTCGCCGTCA
 25 AAGCCACGACCGAGCGCATCGATCCGCAAGGCACCTGTATCGGCGTTTCGCGGTTTCGCGTG
 TCAATGCCGTGAGCAACGAATTGTCCGGCGAGCGCATCGATGTCGTCTCTGGTCGCCCCG
 AACCCGCGCAATTCGTGATGAGCGCGCTCTCACCCGCCGAAGTCAGCCGCATCGTCATCG
 ACGAAGACAAACACCGCTCGATGTCATCGTTGCCGAAGACAGCTCGCGCTCGCCATCG
 GCGCGCGCGGTCAAACGTCGCGCTTGCTTCCGACCTGACCGGCTGGCAGCTCAACATCA
 30 TGACTTCCGCCGAGGCGAGCAACGCAATGCGGCAGAAGATGCCGCCATCCGCGCGCTGT
 TTATGGATCACTTGAACGTGGACGAAGAACCAGCCGACGTACTGGTTCAGGAAGGTTTTG
 CAACCTTGAAGAAGTCGCTATGTTCTGCGCCGAACCTGCTTGCCATTGAAGGATTTG
 ACGAAGAAATCGTCGATATGCTCCGCAACCGCGCCCGCGATGCCATCTGACCATGGCGA
 TTGCCGCCGAAGAAAACTGGGCGAAGTGTCCGACGATATGCCGAACCTCGAAGGCATAG
 35 ATGCCGATATGCTCCGACGCTTGCCTGAAGCAGGCATTACCAACCGCGACGACTTGGCAG
 AGCTTGCTGTGGACGAACCTGATTGAAATCACCAGGTGTAACGAAGAAACCGCAAAAGCCG
 TCATCTGACCGCACGCGAACACTGGTTTACCGAAGACAAATAAAGGGGTACAGATGAG
 TAACACAACCGTAGAACAATTTGCCGCCGAGCTGAAACGCCCCGTGCAAGACCTGTTGAA
 ACAGTTGAAAGAAGCCGCGTCAGCAAAACAGCGGCAGCGATTCCCTGACGCTGGACGA
 40 CAAACAGCTTCTGAACGCCTACCTGACCAAGAAAAACGGCAGCAACAGCAGCACCATCAG
 CATCCGCCGCACCAAAACCGAAGTCAGCACCCTTGACGGCGTAAAAGTCGAAACACGCAA
 ACGCGGACGCACTGTCAAGATTCTTCTGCCGAAGAATTGGCAGCACAGGTAAAAGCCGC
 CCAAAACCAAGCCGACCTGTCCGCCGCGAGCAGACGGCAGAAGACGCGGCAAAAGCCCG
 AGCCGAAGCTGCCGCACGCGCAGAAGCCCGTGCCAAGGCAGAAGCGGAAGCGGCAAAACT
 45 GAAAGCGGCAAAAGCAGGCAACAAAGCCAAACCTGCCGCGCAGAAACCCACCGAAGCAAA
 AGCCGAAACCGCACCCGTTGCCGGGAAACCAACCCGCCGAAGAAAGCAAGCGGAAAA
 AGCCCAAGCCGACAAATGCCGTCTGAAAAACCCGCCGAGCCCAAGAAAAAGCCGCCAA
 GCCGAAACACGAGCGAAACGGCAAGGCAAGATGCCAAAAACCGGCGAAACCTGCCGC
 ACCTGCCGTGCCGCAACCCGTGGTCAGCGCGGAAGAACAGGCGCAACGCGACGAAGAAGC
 50 ACGCCGTGCCGCCGCACTTCCGCGCCACCAAGGAAGCCCTGTTGAAAGAGAAACAGGAACG
 CCAGGCACGCGCGAAGCCATGAAACAACAGGCAGAACACAGGCAAAAGCCGCACAGGA
 AGCCAAAACCGGCAGACAGCGTCCCGCCAAACCTGCCGAAAAACCGCAGGCAGCCGCGCC
 AGCCGTGCAAAATAAACCTGTCAATCCGGCAAAAGCGAAAAAGAAGACCGCCGCAACCG

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CGATGACGAAGGTCAAGGCCGAAACGCCAAAGGCAAAGGCGGAAAAGGCGGACGCGACCG
CAACAATGCACGCAATGGCGACGACGAGCGGTACGCGGCGGCAAAAAGGCAAAAACCT
CAAACCTCGAGCCGAACCAACACGCTTCCAAGCACCGACCGAACCCGTCGTTCATGAAGT
5 TTTGGTTCCCGAAACCATTAACCGTTGCCGATTTGGCGCACAAAATGGCGGTCAAAGGCGT
GGAAGTGGTCAAAGCCCTGATGAAGATGGGCATGATGGTTACCATCAACCAATCCATCGA
CCAAGACACCGCCCTGATTGTGGTGAAGAACTCGGCCACATCGGCAACCTGCCGACG
CGACGACCTGAAGCATTTCTGGACGAGGGCGCGGAAGCAGTGGAAGCCGAAGCATTTGCC
GCGTCCGCCCGTCGTTACCGTGATGGGCCACGTGACCCACGGCAAAACCTCGCTGCTGGA
10 CTACATCCGCCGTACCAAGTGGTACAGGGCGAAGCGGGCGGCATTACGCAGCACATCGG
CGCGTACCACGTTGAAACCCCTCGCGGCGTGATTACCTTCTTGGACACCCCGGGCCACGA
AGCCTTTACCGCTATGCGCGCACGCGGTGCGAAAGCAACCGACATCGTGATTCTCGTGGT
CGCCGCCGACGACGGCGTGATGCCGCAACCATCGAAGCGATTGCCACGCCAAAGCTGC
GGGTGTACCGATGGTGGTTGCCGTCAACAAAATCGATAAAGAAGCCGCAACCCAGAGCG
15 GTTTATCGACGTTTCCGCTAAAAAGGCCTGAACATCGATGCATTGCTCGAAGCCGTCTT
GCTCGAAGCTGAAGTTTGGAACTGACCGCACCTGTGATGCGCCCGCCAAAGGCATCAT
CGTCGAGGCGCGCTTGGACAAAGGCCGCGCGCGGTGCCACATTGCTGGTTCAAAGCGG
CACGCTGAAAAAGGCGATATGCTGCTGGCCGTACGGCATTCCGGCAAAATCCGCGCGAT
GGTCGATGAAAACGGCAATCCATTACCGAAGCCGGTCCGTCCATCCCCGTGCAATCCT
20 CGGCTTGTCCGACGTACCGAATGCGGGTGAAGACGCGATGGTATTGGCGGACGAGAAAA
AGCGCGCGAAATCGCCCTCTTCCGCCAAGGCAATACCGCGACGTGCGCCTTGCCAAACA
GCAGGCGCGAAGCTGGAAAAATATGTTCAACAATATGGGCGAAACCCAGGCCCAATCTTT
GTCGGTCATCATCAAGGCAGACGTGACGGGCTCTTACGAGGCTTTGGCGGGCAGCCTGAA
AAACTGTCCACAGACGAAGTGAAAGTGACGTGTTGCACAGCGGCGTGGGCGGCATTAC
25 CGAATCGGATGTCAACCTTGCCATCGCTTCGGGCGCATTCATTATCGGCTTTAACGTGCG
TGCAGATGCCTCTTCCGCGCAAACTTGCCGAAATGAAAACGTGGAAATCCGCTACTACAA
CATCATCTACGATGCCATCAACGACGTGAAGGCGGCGATGAGCGGTATGCTTTCCCCGGA
AGAGAAAGAACAGGTTACCGGTACGGTCGAAATCCGTACGGTCATCTCCGTTTCCAAAGT
CGCAACATCTGAGCTGTATGGTTACCGACGCGGTGGTCAAACGCGATTCCCATGTCCG
30 CCTCATCCGCAACAACGTGGTTATCCACACGGGCGAACTGGCTTCGTTGAAACGCTATAA
AGACGATGTAAAGAAGTCCGCATGGGCTTCGAGTGCGGTCTGATGCTCAAAGGCTACAA
CGAAATCATGGAAGGCGACCAACTGGAATGCTTCGACATCGTCGAAGTTGCCCGCAGCCT
GTAATTCCTTTGCAATAAAATGCCGTCTGAAGCGTTCAGACGGCATACGAAACGGGTTT
TGTATCATACAGAACCCGTTTTTTGTGCGCAATCGGCTTCAGACAGCCCTCTTGCCCTTAT
35 CCCGATTGGAATCTGACTTGCCATACAAACAGGCTTCAGACGGCATTATTTGCCCGCTAA
ACGTATCCCAAGCTTCTCCGCATATTCCCTGCGTTCCGGCGGGCTGGTTTCCGGGCGGTG
CGTATTGAGCGACGACCAATTTCCAATGACTGCGGGCTTTGTTGAGTTCCGGGCGGGAGTCT
GGCGGCATCCCACGGGACTTTGCGGCTGTGCAGCTCGATATCCGACTGTGCCGCGTGTCC
GCGCGTTTGAGGACGTGGAGCAAATCGAGGGCGCGGGCGGCGAGCAGGGTCAGGGTTTC
40 AGGGTCGGTGTGCAGGGTTTGGCGGCCAGCGAGTTTGTGCGAAATGGTGCGGGTATTGGG
CAGGATGCCGCCCAAAAAGCCGCCGATTGCCGTACCAATCCGAGCGAGCCGCCGAGTGT
GGCGATGTCCAGCCCCAAGCCGATGAGCGCGCCGGTTGCCGCGCCCGTGCCGGTGCGGAT
GCCGTATTGTTTGAACAATTGCTGTGCAACGGGCTTTGGCGGAAGGCTTGCGGCATCCA
GTCGCCGCGCGTCGATTTTCGCTGTGGTAGAAACGGTAGAGGGCAACAGCCGCTGCTGCAT
45 CTGCCGTTTCGAGTTGGCGTATTTCCGCTGCATGGTTTGCAGCACGGTGGCGGTATCCTC
GTTTTCGTCCACTTCTGCTGAAGGCGGCGGCATCAATTAAGTGGCGATTTCGCG
GCGCGCTTCGCCGTCCAGCCGCTGCCATTGCGCGCGGCGCATGGCTGTAGGCGGTCAAG
TGTGCTGCGTTCCGGCAACATGGTGGCGAGGTTTTCCACAGGCGCAGTTCCGCTTCAAA
ATCAAAGGCGACGGTGTGCAACCTGCGAAAACGTGCAGGTTTCTCCTCGCCAGCATGGT
50 GTGCCACGATTGGGAAGCTGTCCGCCGTAAGTTGAACAGGGCATAACCGGTTTGGC
ACACCATGAAAGGATGGTCAACTCGTCCCTGTATTGTCGAGGACGGGTTCCGCGCGCTC
GATGACGTACATTGCCATATCGCTTTCAGAACTTGCCGTAAGACTTTGGCTTCTGATT
GAAATCATGGTGGCACCGTGGCTGCCGAGAACTGTTGCAGCCGTTTCGATGCCGTCTGA
ACGATTGTCCGTATGGTTTTCCAGCCATTCCAGCACGCCGCCCGCTTTCGAGTCCGGG
55 CGTGTGCTACAGGAAAACAGCGTGTGTCGCGCGTTCGCTGATGGCGGCTTCTTCGACATG
ACGCGTGGTTCGATGGGGCGTTTTTGACTTCGCCGAAACCGCTGTGCGCGCAAGGGTACG
CAGGAGCGAGGTTTTGCCGGTGTGGTGTGTCGACGACGGCGAGGGAAAGGGTGTGTT

5 GTTCATGATGTTTTTGAAGAATGGATTTTCAGACGGTCTTTTTTCAGAATGGCGGCTTAA
CAGAACATTTCAAGTGAGTTTATTGGTCTTTCAAACGCCCTTCCTGCGCCGCCCTGTCAG
GCTCAAGCCACGCCGCGCCGATTCGGCCAGCGGTTACGCCAATGTTCCAGCTTTTCCG
AAAGGTCGTCTGAAAGCCCCGTGTCCGCCAAAAGCTGCACCACCGCGCCGCTGCGCCG
10 CTTCCGAGAGTCGGACAATCTGCCGCAACACGCCGCGGTCCGGCACAGTTTGGGCGCGCA
CGCCGATAAGCAGTTGCGCCGGTTTCTGCTTCAGCTCTGTCTCCAGCGCGGCAACCTGTT
CCCGATTGGTGGCAACGCCCTTATCCAGCCATTCTGCGCCAGCCTGCCCTCGAACCATT
CGCCGTCTGCGCACTCGGTCTCCAGCATGACCGCCCATTTCCGCGCATCGTTCAAGATGA
TTTTCCGTGAAACGGCGGACACGGTTTCCCGACGCGTATCCGCATCGGTGATTTTGTCT
15 GCCAGCGCGGATGACCGCTGATAATAGGGCTTTTCAAATCCAATCCGTTTTCGCTTG
TTTTCAAAGGATTTTACACACTACCCAAGCCAGCAGGCGCGGAGGATGCCGTAGCAGG
CGATACTGCCGACCAGCAGCCCCGACCAAGCCCGCGCATCGGCAATATTGCCGTTTCAGAC
GGCCTTCGATGACCGCCCGCGCATCGGGACAGGGAACCGAGTTTCGACGGCAGCCATG
CCAACATTTCCACCGCGGTACCGAAGCGGCATTGCTCAACAGCGTGCTTTCCAGTTGA
20 AGTATATTCCCGCACCAAAAGCAGCAACAATACCGACACCAGCATTCCGAGCAGCGTGC
AGAGCCACAGGCTGTGCGACGTTGCGCCTATTTTCCAACGTACCGAAGGTTGCCGCCACT
CGTCCGCATACAGCCGCAACACCGCCTGATTTACAGGGTCTTTGCCCGAAACCACGTCG
CCGGACTGCTGAAAAACGCCCACTTTACACGCAGGAACAACATTGCCAACCATACTG
CCAGCATCAGCGTATTCATGCCCAACACGCCCGCCAAAACCAAAAAGAAATTCAGACCCCT
25 GATTGTCCATTAGAAGATAAGTGACTGAAAAACCGGTAAAAATGCAAACGTCGCCGCCA
CCACCACAACCAGAACGACCCCGCACGCACGTTCCAACGCTCTCCCGCAGCATACGGT
TCCTGTCAATCATCTCCGCCGACGGATGATTTTCTCTCCGTACTGCCGTCCACGCGGC
GCAAAGCCTCCGTGCGCTGTACGGGATCGCCGCTGAAAATAAAACCGCCTTCGTCCAAA
TACGGACAGCTCAACCAGTTTTCGGGATGGATTCAACATAAAATGCCGTCTGAAAAATA
30 AAAACAGATTTTAAACACACGCATTTTCAAGAATATTACAGTGATAGGCAAAGAGTAAATC
TCACACAGAAGCAAAAGTATCGGCGTAAACTGACTGCCTCTACTTTCCCGAAAGATTGTG
CGATGTATACAGGCGAACGCTTCAATACTTACAGCCATTTGAGCGGTTTGATTCTGGCGG
CGGCAGGTTTGGCGCTGATGCTGCTGAAAACCATAGGACACGGGGACGGCTACCGTATCT
TCAGCGTATCGGTTTACGGCATCAGCCTTCTCTGCTCTATTTGAGTTCTCTGCTGTACC
35 TCGGAATTGCGCCGGAAGCTGAAAAGCATTTTGAAGCAATTTGAAAAAACCAGCACTGCA
ATGTGCTGATTGCCGGAAGCTACACACCGTTTGCACTGGTTTCTTTGAGAAACGGGCCGG
GCTGGACGGTATTTTCACTGTCTGGCTGCTGGCGGCTGCAGGAATCGCACAGAAGTCA
CCATCGGACGGAAGCGAAAACGTCGTGTCTATTGTGATTTATGTCGTATGGGTT
GGATGGTCTTGGCGGTAAATGAAATCCCTGACAGCCTCACTCCCGTCGGCAGGACTGGCTT
40 GGCTGGCGGCAGGCGGTATGCTGTACAGTGTCGGCATTACTGGTTTGTAAACGATGAAA
AAATCCGACACGGGCACGGAATCTGGCATCTGTTGATTTGGGCGGCAGCATCACCCAAT
TTGTACAGCTGTACGGTTACGTAATCTGAATGCCGTCTGAAAAGCAAAACCTCCCGTTCC
TGAAGATTGGGAGGTTTCTGTTTGGCGGACATCAGCCCTTGTCGTGGAACCTCGTGGAAT
TCATACTGATAGGACAAATCCCGACCCGCTTTTTCTGTGCCAAATAATCATATAAATG
45 GCGCGGATTTCTTTACGCAACAAAACAGGGCTATCAGGTTGGGGATAACCATAAAACCG
TTGAACATATCCGACAGACTCCAACCAATCGACTTTGCCGAGCGTACCCAAAACAATG
GCAAGCAGAACCAATGCGCGATAGATGCCAAGTGTCTTCCCCTGAAAAGAAAACGGATA
TTGGACTCGCCGAAATAATACCAACCGATGATGGTGGTGAAGGCAAAGAAGGTCAGACAC
ACGGCAAGCAATTGCGAACCAGAACCCGGAATGCCTTGTAAAGGCAAAATTGAGTAACC
50 GCCGCGCCCTGTTCCGCCGAAAGGTTGGCATCGGTGACGAGGATAATCAATGCCGTAGCC
GTACATAACCAAAATCGTATCGATAAACACACCGACAAATGCCGCCATACCTTGCTGCACA
GGGTGCTTACATCCGAGTCGCGTGGGCGTGGGAGTCGAACCCATACCTGCTTCGTTG
GAAAACAGACCGCGGCCACGCCGAAACGTATCGCTTCGCGCATACCGATACCCGAGCA
CCGCCCAAACGGCTTCGGGATTGAAGGCGGCGGTAAAGATGTGGTTGAACATCGGCACA
55 ATATGGTTCGGAATTTCAAACAGGATAACGACGGCGCACAAAATATAACAACCGCCATA
AACGGCAAGCAAAATGGGCGATATTGGCAATACGGTTACGCGCCCAATCACAACCATG
CCCGCAAGGACGGCAAGCACAATACCGACTGCCAAAGAGGCACATCAATGCAATGGTA
ACGGCAGAAGCAATGGAGTTTGCTGTGTCGATTACCGATAAAGCCCAATGCGATAATC
AACGCAATGGAAAAGAAACCGGACAAAAACGCGCCGCGCCCTGCCGATTTTCGGAGTC
AGACCGTGGGTGATGTAGAACGCCGCGCCCGATGTATTGCCGTGGCTGACGACGCGG
TATTTCTGCGCCAGCAGTGCCTCCGCAAAAATCGTGGACATCCCCAAAACGGCAGAAACC
CACATCCAAAAAATCGCGCCCGCCCGCTGCGGTGATGGCGGTGCCACGCCGGCAACG

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TTGCCCGTACCGATTTGCGCAGATATGGCAACCGCCAACGCCTGAACTGCGATAAAGAC
TTGTCGTCTTTATCGCCTTTGGCAAACAAGCCGCCGAATACGGATTTGAATCCCGCGCCC
AGCTTGGTAATCTGCGGCGACCAAGATACAGCGTAAAAAACAGGCCGATACCCAAAAGC
GCGTAAATCAGCAGGTAGTCCCAAAGGAACCGATTGACTGTACCCACCAGAACAGACAAT
5 ATATTTTCCATAAAATAAACCTTATCTTACAATTAATGACTGCCTTCCAAAAGACATT
CCAATAAGGAAACACGGCGAGCAGACCGTATTTGCCGCAACAGATGCCTTAAATTGTCAA
CAATCGGGGAGAAGCTGCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 46>:

10 **GNMAA91R gnm_46**

CCTTCGACCAAAACGACTTCGTAATGCGCCGCCAATCCTTGTGTGGCGGTGCGGATTTTG
TCCAAGTCCAAAGCCCTGCCATCCAGTCGGGCGGCGAGGTGAGGCGAAnGGnGATAGCTG
AAGATTTGCGGCATAGTCAGCCGCCGTTTGTGCGCTTCTGCATCGGTATGCCATAATT
TTGCGGTGGACGGCGATGTCGTGCGCCAATAACCTCATGATGGAATAGTACCGTTTTTCA
15 AAGGTACTTTAATCATAGAGCGTCGAGCTTGATCCATTGCTTTTTGAACAGCAACTGGTA
CTTCTTTTGATTTACCTTTGCCCATACCAATGnGACCATnACCATCAACCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 47>:

gnm_47

20 TTTATTATGCTGCCTTTCCCTGCTGATTTCTGTCCGGTACCCTGAGTCAAGAGTCTGCA
TTTGAAACTTACCGTGCCATTGTTTCCCATCCTTTGGTCAAGCTGGTTTTAATCGGTGTA
TTGTGGGCTTATCTGACCATTCTCTCGCCGGTATCCGCTTTTTATTTTTGGATGCGCAC
AAAGGCCCTTGAGCTGAATACTGCGCGCAATACCGCTAAAGCCGTATTTGCTTCTGCATTG
GTTTTGACTGTGCTTTTGGGAGCGTTGTTATGGTAGAACGTAAATTGACCGGTGCCCATT
25 ACGGTTTGCAGGATTGGGTGATGCAACGTGCGACTGCGGTATTATGTTGATTATACCG
TTGCACTTTTAGTGGTTCTATTTTCCCTGCCTAAAGAATATTCGGCATGGCAGGCATTTT
TTAGTCAAACCTTGGGTAAAAGTATTTACCCAAGTGAGCTTCATCGCCGTATTCTTGACG
CTTGGGTGGGTATCCGCGATTGTGGATGGACTATATCAAACCCCTTCGGCGTGCGTTTGT
TTTTGCAGGTTGCCACCATCGTTTGGCTGGTTCGGCTGTCTCGTGTATTCAAGTTAAAGTGA
30 TTTGGGGGTAAGTATGGGTTTTCTGTTCGCAAGTTTGATGCCGTGATTGTGCGCGGTGG
TGGTGCAGGTTTACGCGCAGCCCTCCAATTATCCAATCCGGTCTGAATTGTGCCGTTTT
GTCTAAAGTGTTCCCGACCCGTTTCGCATACCGTAGCGGCGCAGGGCGGTATTTCCGCCTC
TCTGGGTAATGTGCAGGAAGACCGTTGGGACTGGCACATGTACGATACCGTGAAAGGTTT
CGACTGGTTGGGCGACCAAGATGCGATTGAGTTTATGTGCCGCGCGCGCCTGAAGCCGT
35 AATTGAGTTGGAACACATGGGTATGCCTTTTGACCGTGTGAAAGCGGTAAAATTTATCA
GCGTCCTTTTCGGCGGCCATACTGCCGAACACGGTAAACGCGCGGTAGAACGCGCCTGTGC
GGTTGCCGACCGTACAGGTCATGCGATGCTGCATACTTTGTACCAACAAAACGTCCGTGC
CAATACGCAATTCTTTGTGGAATGGACGGCACAAGATTTGATTTCGTGATGAAAACGGCGA
TGTCGTGCGCGTAACCGCCATGGAAATGGAAACCGGCGAAGTTTATATTTCCACGCTAA
40 AGCTGTGATGTTTGTACCGGCGGCGCGGTTCGTATTTATGCGTCTTCTACCAATGCCTA
TATGAATACCGCGATGGTTTGGGTATTTGTGCGCGTGCGAGGTATCCCGTTGGAAGACAT
GGAATTTGCGCAATTCACCCGACCGCGGTGGCGGGTGCGGGCGTGTGATTACCGAAGG
CGTACGCGCGGAGGGCGGTATTCTGTTGAATGCCGACGCGCAACGCTTTATGGAACGCTA
TGCGCCGACCGTAAAAGACTTGGCTTCTCGCGACGTTGTTTCCGCGCGATGGCGATGGA
45 AATCTACGAAGGTGCGGCTGCGGTAAAAACAAAGACCATGTCTTACTGAAAAATCGACCA
TATCGGCGCAGAAAAATATGGAAAACTGCCGGGCATCCGCGAGATTTCCATTCAAGTT
CGCCGGTATCGATCCGATTAAAGACCCGATTCCCGTTGTGCCGACTACCCACTATATGAT
GGGCGGCATTCCGACCAATTACCACGGCGAAGTTGTGCTTCCGCAAGGTGAAGATTACGA
AGTGCCTGTAAAAGGTCTGTATGCGGCAGGTGAGTGCCTTGTGCTTCCGTACACGGTGC
50 GAACCGCTTGGGTACCAACTCCCTGTTGGACTTGGTGGTATTTCGGTAAAGCTGCCGGCGA

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CAGCATGATTAAATTCATCAAAGAGCAAAGCGACTGGAAACCTTTGCCTGCTAATGCAGG
TGAGTTGACCCGCCAACGTATCGAGCGTTTGGACAACCAAACCGATGGTGAAAACGTTGA
TGCATTGCGTCGCGAACTGCAACGCTCTGTACAACGACGCGCGCGTGTCCGTACTGA
5 TGAGATTCTGAGCAAAGGCGTTCGAGAAGTCATGGCGATTGCCGAGCGTGTGAAACGTAC
CGAAATCAAAGACAAGAGCAAAGTGTGGAATACCGCGCGTATCGAGGCTTTGGAATTGGA
TAACCTGATTGAAGTGGCGAAAGCGACTTTGGTGTCTGCCGAAGCACGTAAAGAATCACG
CGGTGCGCACGCTTCAGACGACCATCCTGAGCGCGATGATGAAAACGATGAAACATAC
GCTGTACCATTAGATATCAATACCTTGTCTACAAACCGGTGCACACCAAGCCTTTGAG
10 CGTGGAATACATCAAACCGGCCAAGCGCGTTTATTGATGCGTTTTTCAGACAGTCTTCGCC
TCAAAGGTCGTCTGAAATCTAACCATACCCACATTGAAGTCTTGAATTTATAATACAAA
ATCATTGGCGAGTTGATGAGAAAAGGAACACTTCTCATGGAAAAAATGAGTTTGAATTT
TACCGTTACAACCCGGATGTTGATGCCAAGCCTTATATGCAGCGTTACGAGTTGGAATTG
GAACCGACCGACGTGAAACTTTTGGATGCTTTGGTACGCTGAAAGCACAAGACGATACC
15 TTGTCTTTCCGCCGCTCCTGCCGGAAGGCATTTGCGGATCGGACGGTATGAACATCAAC
GGCAAAAACGGCTTGGCGTGTGTTGACCGATCTGCGTGGCTTGAACAGCCAGTTAAATC
CGTCTCTGCCAGGTCTGCCTGTTATCCGCGACCTGATTGTGGATATGACCCAGTCTTTC
AAACAATACCATTCCGTCAAACCTTATGTTGTCAACGATAATCCGATTGATGCGGACAAA
GAGCGTCTGCAAACCTCAGGAAGAGCGTAAAGAGTTGGACGGTTTGTACGAGTGTATTTG
20 TGCGCCTGCTGTTGACTGCCTGCCCGTCATTTTGGTGGAAACCTGATAAATTCGTCGGT
CCGTCGGTTTGTCTGAATGCTTACCGTTTCATTGCGGACAGCCGTGATACCATCACTAAT
GAGCGTTTGGATAATCTGAACGCCATACCGTTTGTTCGGTTGCCACACCATTAAGAAC
TGCGTAGACGTATGTCTAAACACTTGAATCCGACCCGAGCCATCGGTAAGATTAAAGAG
ATTATGTTGAAACGGGCCGTTTAAAGAAATGATGGTTTTTGACGATATTGCCAAACGGAAA
ATCCGTTTTCAAACCCGCCGGGATTGTTGGAATTAGATTTAATCTTCGGCAGGTTTATG
25 GAAAAAGAATTCGAGCATTTGAGCGATAAAGAGCTGTCCGAGTTTCCGAAATCCTTGAA
TTTCAAGATCAAGAATTGCTTGCTTGTATTAACGGGCATTCCGAAACGGACAAAGGGCAC
CTTATCCCGATGCTTGAAAAATCAGACGGGCATGAGGCATCTGAAATCTGCCTGCAGGC
AGATTTCAAATGCAAAAGCCGTCTGAAGGCAAAGAACGTGCTGCGGATGCAGTAACGTG
GGTTATAACTTGCAAAGGAGCAATAATATGTCCAAATCAAACTCAACGTACCGGGT
30 CAGGCAGGTTTGGAGCTGCCGCTATTGGAAGCCAGCATCGGGCAGCATGTGGTTGACATT
CGGGGGCTGACAAAAAATACAGGTTTGTTCCTTCGACCCCGATTGTTTCAACCGCA
AGCTGTGAGTCTAAAATTACTTACATCGACGGCGATCAAGGCTTCTTTATTATCGCGGA
TACCCCATCGAGCAGCTGGCCGAAAAGTCCGATTATTTGGAAGTCTGCTACCTGTTGATT
TACGGCGAATGCCGACTCCCGAGCAAAGGCGAGAATTTGACAAATACCGTCCGCCGCCAC
35 ACGATGGTGCATGAACAGCTGACTTGTTCTTCCGGGGTTCCGCCGCGACGCGCATCCG
ATGGCGATGATGGTCGGCGTGGTCCGCGCACTGTCTGCTTCTACCAAGACAGCTTGAC
ATTAGCAATCCCGAACACCGCAAATCGCGATTACCGCCTGATTTCTAAAATCCCGACC
ATTGCGGCAATGTGCTACCGCTATTCAAACGGTCTGCCGTTCAATTATCCGAAGAATAAT
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30 CGGCGTATCAGAGAGAAAGCTGCTGTGGGCGTAAACGGATTGGTTGAGCAGGTTGTGCGC
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GAGCATATGGTGTCCGGGCGTGCCTGTTTCGTAGCGGCGAGTTTGTGTTGGGCGAACAC
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35 GCGTAGGCATCTTCTGCGCGGTAGGGAAGGCAGGTTTTTACAGCGGCTCGTACATA
GTCGCGGAAACGCGCGATGCGGTAGCGCGGTGTCGGTTGAAGTAGATTTGCGCTTCCG
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GATGGATTTGGGCGCGCTCCGTGCTTAAAGTTTGGGCGTAAATGTAGTTACCGAAGCG
GTTGCGGTAGAGTGCCAGATTGTATTGCCAGCGTGCCTTCGTAGCCAGCGGAGTTTC
40 GATATTGTTGGAACGCTCTTTGTTGAGGTGTTTGTGCGGACTTCAAAGGTGTTGGTGGC
GACGTGTTTGCCGTGTGCGTACAGCTCTTGCCTTGACGGCAGGCGTTTCTGATGGGAGGC
GGTCAGGCTGAGTTGTGTTGTGGCGTGAAATACAGTTGCCCGAAAGTGCGAATGAGCG
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AATCAATGCTTTGTGCTACTGAATGGAGGCTTTTTGTTTTTCCACGCGTACGCTCCTTC
45 AAGCGTGAAGTTGTCCAGTTTGCCTGTTCTACACCGAAAAAGCTGTAATGTTGCACTTT
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TTCGTGTTGGCGGTAGTCGTTGCGGTTTCAAGTGTACGCGCAGGGCTTCAAACCGGGGAA
50 CCGTTGCTTCCATTTCGGCACGGAGTTCGTAGCGTTTGTGCGCAGGCTATCCACGGTCT
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55 GCCAACCCAGACAGCCCGATGCTGCCCGTTTGGCAATCGGCGTGGCTGTGCGGCGAGGCG
TTTCAGATTGCGGTAACGCGGTACGGCGTAATCCCCGATTGCGGTTACAGCCCTTCCGT
GTGCAATACAAAGTTTTTGGCCAAACCGATATTGATGCCGCGGACGTGAGTTTTTCCAG

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ATTGCCGCTGCTCAAACGCAATCCGAGTTCGCCCCGATACGCCGTTTTTCAGGCATTTTTTC
GGGGATTTTGCCATCGGCAACATCGACCAGCCCCGCCACATTGCCCGAGCTGTACAAGAG
CGTAACCGGCCCCGCGCAGGATTTTCGACCTGTTGCGACAAGCGGTATCTACCATAATGGC
GTGATCGGGCGAAAAATCCGCCATATCGCCTGTTTCGCCGTGATGGTTCAACACTTTAAT
5 CCGCCTGCCTGTTTGACCGCAATGACGGGAGCAGACGCCGCCGCCGCTATTGCGAAGC
GTGGATGCCCGGTACGCCGTCTAAAGCGTCGCCCAAGTTGACGGCTTTTTGGCGCAAGGT
ATCGCCGGAGATGATTTTGTGCGAGGCGGTGGAAGTGTGCAACAGCCCCGACGTGGCGCG
CGGACGGCTTTTGCCGACGACGCTGACCGTTTCCAAATCCACCGATTGCTCAGTTTTATG
CGG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 48>:

gnm_48

TAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGACTCT
CTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCG
15 TCGCCTTGCTCGATTTTTGTTAATCCACTATATCGATTGAAATTTTCAGAAAATGAAG
CGGACGTTTGGGCGGAGGCAACTTGTGATAAGATAGCAATATTTTAAACGGAGAAAG
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AAAGCGGAAGTATCGGCGGCGTAACCGAATTGCTGGCACGCGTGCTGGGCAAAAATCCC
GAAACAACGGTTGTCGTGATTGACGAAGTGGATACCGATAACTGGGGAATAGGCGGCAAA
20 AGCGTCAGCGAACGGCGCAAAGAGGGCAGGTAAAAAGCCTGAAAATCTCGGTTTGATGCT
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25 CAACCTGCCGACTTCGCAAGGCTATTGCGATTCTAAAGGGCTGTATTCCGCCCGCAAAGC
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CGGCAACGGCGTGTCCGAGCTGATTACGATGTCTATGCAGGCATTGCTCAACGACGGCGA
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30 TATGGAAGCCAAAATCACGCCCCAAAACCAAGCCATCGTCGTCAATCCCAATAATCC
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35 TGCAAAAGGTTACATCGAGGTTTGGATATGCTCTCGTCTATGCGCCTGTGTGCCAATAC
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CGAAATGTACCGTATCCGCGATGACATGAAATTGTTTACGATTTGCTGGTGGCGGAAAA
40 AGTCTTGCTGGTGCAGGGAACGGGGTTTAATTGGATCAAGCCCCGACCATTTCGCGATTGT
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45 TTTTGCCAGCGGGTTTTCGATTTCCGACTGGATGGCGGCTTTGAGCGGACGTGCGCCGTA
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5 CACGCGCGGTGCAATACTTCTCCATTTTCAGCAGTTTGTGCGGTTTCGCCTTCCATCAT
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10 ATTAGCAGCACCCTCTGAAATGCTTTTTTCGGCTTTCAGATTTTCGTCTAAATCGGCGTA
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15 CGCTGCGGCAACGATAGCAGGGTCGGTAATATCGATACCATGGTGGATTTTCATAACGCTC
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40 GTAGGTTACGCAGCCCAAGGGCAGGCTTTCGGTAATGTCGGGATTACGCGTCGAGCCGAT
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45 GCGGAATGTGTTGGTTGCCACGGCGCGTACCTGTTAGGGCGGAAGCCGCGCAGGCGTTT
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[illegible]

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35 TGTGTTGGAAGCGAGCCTGCCGTCTATGGTTTCCAAAATCGCGCCGTCGACCTGAAGGG
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35 ACCCAACTGTTTGC GCGGGGTGAGGTTGCGGAACTTGGTGGCTGCCAACCGAAGGCGCG
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 20 ACAGCGTCGGCCAGTGGTGTTCATCATGCCGCCGACGAGCCGGACGGCACGACGATCG
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 GGCCGGATGAATAGGCAGGCTGCGCCGACGAGCTTTGCGCCATCGGGAAATGGACGCGTA
 TGCCCTGCTGCTCGATTAGGGTAATGGCATCCATG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 49>:

gnm_49

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 30 CACCAGAAATTTGTCCGAAATATCTCCCATCTCCTCACGGGAATGCGCTCTTCCAATAT
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 40 CGCAGGCCTTCTTCCATAGCGATAGGCGCAATCAGTTCTACGGTGATGGTTACGTTTTCA
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 50 GAACCTTGTAACATCGGGCAGTCATCGCCGGGGAAGTCGTAGCTGGACAGCAGGTCGCGG
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25 TGCCCCAAATCTTGCCAAACGGCTCGAAATTAAGGCAATCGAACAAATCACCACCCCA
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30 ACATTCGACACTTTCGAAAGAGTAAATCGCAAAATGCGACAATATTCAAAGTTGAATATC
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35 CAAATCCGGCAGGCTCGGTTGCGAGTCACTTCAAATAAAGCTGCTGACGGTCTGCTTC
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40 CACAATCAATTCATCTTGAGCTTGAAACCAACCCCATTTGCACTTCGGATTGCGCTTT
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45 ATTGATCATCACCTGATTTTTATAGTATTGATAAAAAGCCTCTTCTCGCCACGGAACCC
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50 GAAGAAGCGAAATACACCAACGAAATTACCGTAGGGATAATACCGTTACCCAAAATAA
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TTATTAATACTGTTGCGGCCACTGGTAACCGGCGAGAACACAAACGACAAAAATTTCTGC
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15 ATATAAAATTTCACTTTAAACACAAGCCAAATCCTAATATAATTATAAATGGCCTAATTA
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35 TACAGCAGGAGGCTCATATTCTGTAAGCTTTTTCTCTATTGATGAGAAAATAAAGGATC
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40 CCTACGCCCTGCAGAGCTGGCCTCCGATACAGCCAGCTCTATTTCAAGGTGTAATACATGC
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50 GGTGATGCTGCCTAATAATGAGGCGCTGAAGTTGTTAAACATCAACACACATCGTTGA
AGACGAAATGTCTGATGAGGCCAAACAAGTCATTCCAGGCAATGCAGATGTCTCTATTTA
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AGAGAGTAAGGGTATGATTTTTATCAGTACTCCTTTCTCTCGTGCAGCTGCTTTACGATT
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55 AATTAACCTGGTGGCCTCTTTTGGTAAGCCTATTATTCTCTCTACCGGCATGAATTCTAT
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10 GAGGATTTGGCTATTACATATAGCTAATTTCTCATTATTTTAAAGAGATACAATAATGCTA
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GGTCAGCTTAACCAAGTCCAAAGCCTAATTAATAACAAAAATTAACCAATAATTTACTA
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15 AAGAATCTATTTGAATCTATTTATCTATTTGAGCTTCTAGAACCCCTAATAATATAACT
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20 ATTAAGAGATATATAGATCATTTTGACATATTGCATGTCCCTTTCTGAATATGCTAAA
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30 ACCCGTATTCACGATTAAATAAATCTCATCAGCTATACTATCAAAAACAATTTTGCCTA
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55 CAATGGCCTTGAAGCAATATTTAATTGCGCATTTCTGCTTAAAGAACCTTTTTAACCAACC
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10 TATCCGCGATCGTGAGATTTTGCGCCGTATTTTGCAGAAAACCGCATTGATTCCGTTGAT
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30 ATATCGTCGGCACATTCAATCTGCTTGAAGCAGCCCGCGCCTACTGGCAACAAATGCCGT
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35 TTGCTTTGCGGATTTCTGAACGCGCTTGACGGCAAACCGCTGCCTGTGTACGGCGACGGTA
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40 ACGCCGTGACGCGAGCCAAAATCAGGCGGGATTGGGCTGGCTGCCTTTGGAAACCTTCG
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50 AGCGCAACGCGACGCGCAACCGTGTGTTGCTTATCAGGTCAAAAACCCGAAACGTTTCGG
CGTGGTTGAATTTAACGAAAACCTCCGCGCGCTTCCATCGAAGAAAACCGCAACGGCC
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55 CGGCACCCACGAGAGCCTGCACGAAGCCGCTTATTTCGTCCAAACCGTGCAAAATATCCA
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 10 CAAACCGCGCCGCTGCTGTGCGCCAAAGACCTTGCCGGCAAACGTTGGGCGCAAGCCGAA
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 20 GGGCGAAAATGCCGACGCGATGGTCGTATCAAAGTCGCTTGAGGGGTGCCAAAGCCT
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 25 ATTTGCGGTTAGCCTCATCCGCCAACAAACCTCCGGATTGCGCTACCAGCAGCAAAACCA
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 30 TAGGCGACAAATCCTGTTGCGCGCTTCCGACGCGGCGCACCGCGCCAAAACCTCTTGA
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 ACGCCGCCATTTCCATATCGGAAGGTTGCGGAATGTGTGAGGAGAAATACGGCACGGCAA
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 35 AGCCGCGCCCAACCAATGCCAGTGAAGGCCATCGGCAGCTGGAAAAATCGCCGTACCGC
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 TCAATCCCGCCAACGCACCGCGCGCGCCAGCTCTTGATGCCGTGCTGCCTGACGGTTA
 TCCCTTCTTCATGACCGCCACTTCAAATTTTCAAGCAGCGCCACACCTTCCGGATAA
 GGCAATCGCTTTTACCACCATTCGCTAACGCAGAGGAATGGTGAAATCACCCCAAA
 40 ATCCCGCGCGCAATACATAAAAGCGTCGTCTGCCAGAACGGGAACCGCTCCAGTAGCCC
 GCCATTACGCAACCGGGCAGGACGAAGATGATGGTCGAAAGCGTACCCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 50>:

GNMAB22R gnm_50

45 AATGAnCGGCGGCAGGCTGGCGACCGCGTATCCATACTTTCCGTCATGATTGAAGACAAT
 CCCGACATACCGCAGCTTTGGGCGCAATGTTTCGATTTTnCTCTATCCGTTCCGTATCG
 AAAAAACAAGGGGCTGTACTAGATTAGCCCTAAATCCCACACCAATCCCGCAGATTTTAA
 GCTGTTGAGACGGTGTGCCGAAGTTAAATCGAAATTCGCATTCTTTCAAGAACAGCGGGA
 AAGATTTACGATCGATTCCGTTGTATTTTCGCAAGACGCGTTTAGTCTAGAGTCTGTATA
 50 TTACATTATTTTTAGGGTCTGTAGCCAAATTTCTGTTCCCTTCATTATTTTATCTTCTG
 AAAGAAAATTATTTTTTCCATGCTATTAATATTAATGATATGATTTTnATTTAAATAA
 ATGTTTTn

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 51>:

gnm_51

```
5  ACAATTTCTCCTGCAGCGCCGATGATGTTTTTAACGATATCTGCAGTGCCGTTGAAGGCT
   TCGGCGGCATTGCCCCGATCTGTCCAGCTCGGGGCTGTATCGGGTGGCGCGTTTGAATCCG
   TCGCCTACTCCTTGCCTCAGCATACTACCGGCATTGTGGAACGGTCGGCAAGCCGTTGT
   CCGGTGCTGCGGTTGTGCGTCAGGTTGAGGCGGATATTTTGGGCAACGCCTTTTATGTCG
   TAGCTGTATATATCCCTCGCGCCTTTGGGAGCGGGATAGCCGCCGCCCTGTGGCCCGTCA
   TAGCCGTGCGCGGGATGGTGTTCGTATCCGTCCCAATGGATGCGGTAAAGGCTAAATCCG
10  TCAACGGGACTACCGGCTTCATCAGAATCGGAATGTGAGGCATGGTTGTGGAAGGGGAA
   TGGACTTCGTGCCCCGTGATCGGAAAAGCGGACAATGTAGCCGATATTTCTTTAATGGCC
   GCCTGTTGAATCATCAGGTTGCCCACTGATGGCTTTGTATTTTCCCAATCCGATATGr
   ccGaCTGCGCTCGGCAAGTTCCCCCTGTGCCGAATAGGTGGTATTTCCCGTCGGGTTT
   GAAATGCTGACGGTCGAGAACCTGCCGGATAAAAGAATCGTTTGCCAAATCTGAGGCGTG
15  TGCATGCATCGGCAGGCACACTGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 52>:

gnm_52

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 50 CCGCAATTTCACTTAGAATGCCGCACTTGCACACTTTTACAGGAGAGGATGATGTTGAA
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 CGTGCAGCGGAGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 53>:

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gnm_53

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15 AAGCTGTTCGGAACAATACGCCTTTGTGCGTCGGAACGTAGTCCAAGCCGTGTTGTG
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55 GTATACGCGAAAGCGTGCTTGCCGACGCGGGCGGCGAATCCGGGGACGACGCGCATTTTG
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 20 GGCAGGAGCGCATCAGGTCAGAACGTCATTCCCGCGCGCAATCCGCGCGGCGAACAGATT
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 AACAAAAACAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGC
 25 TGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTAAGTGTCTGCGGCTTCGTGCGCTTGT
 CCTGATTTTGTAAATCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 54>:

gnm_54

30 CCGACATGGAACCATCACCATCCCTAAAGAAAATTTGACGCTTTGCTAAATCTCGCAA
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 35 CCTGCCTCCAAGCAATACCGACCGTAAATAGCGGCTGGTTAGACCGTGAATTAGGCGAA
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 40 TCAAGCACGTTGAAAATGGTCAGATCCAATACTCAACACAAAAGGAAATCTAAAATG
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 45 ATTGATGCCGATTTCAAATCAGGGCGTATTGATGTCACCGCGTCATCAATGGCCATACG
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TTCCATTCTGCATTGCGCTGCGCGTTTAAAGAGGGCAATTTTGTGCGAAACGTGCATCAGT
TCGGCAATCTGTTGCGGCGCAAGCTCGCGCAACTGCTGCATTAGAATGTCGGACTCTGCC
5 AGCAGGTCGGGTTGGGTAAACTCGCTGACAGGGGCGAGGTCCTTTTTCATTAAAGTTCTTC
GCAGGGGAAAGGACAAAAACATAATCTGCTCGGTATTGTGTCAAACACGGGGATTTTAA
GTTTAAACGTGTTTGGGGCAAGCCGATTAAAAGTGAAGTATAGTGGATTAAATTTAAAC
CAGTACAGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGTCTTCGGCTTCGTCGCCTTG
10 TCCTGATTTTTGTTAATCCACTATAAATACCGTTATAGCAAATTCAACCGTAAAAATATTG
AAAAATGCCGTCTGAACAAAAGTTCAGACGGCATTTTTTTATTCTTTACCGATATAGGGA
AACAATGGTTTCCGCAGCTTTGACACAAGTTGCGACATCGGCAACCAAGCGATACGCAC
ATAACCTTCCCGGGGATTGCCCTGTTCGGTATCCCGCGCCAAAAACGTCCGGGCAATAC
TTGGATAGCCGCTTTTTGCCATAAATTGCGTGCAAGTGCCAAATCGTCGCCATCAGGGAC
TTTCAACCAGATGTAAACGAGGCATCCGGTAATTTAACGTCAAATACCTGTTGCAAAAT
15 GGGATAACCGCGCTCAAATTTTCTGTATACATACGGCGGTTGTGATAACGTGCTGTTT
ATCATCCCAAGCGGCAATTGCTTGCGCGCTGCACGGGAATACTCATTGCACTGCCGTGATA
GGTTCGTGTAAGCAGAAAGTTTTTAAGCAGTTCGGCATCGCCGGCGACAAAACCGGAACG
CAGGCCCGGAACGTTGGAACGCTTGGACAACTGGTGAACATAAGCAGTTTTTGCCTGCT
TCGACCCAACTGTGACAGCGGCTTGACAGGAGCCCAAGGTTTGTGCGCTCGAAATAGAT
20 TTCGGAATAGCATTTCATCCGAGGCAATAATGAAACCATATTTATCCTGTAATCAAAAAC
TTCTTTCCAGCCGTCCAAATCCAGCACGCTGCCGCTGGGGTTGTTGGGCGAGCAGACGAA
CACCAGTTTGGTGCCTTTCCAAACCTCTTCGGAAATACTGCGCCAATCGGGGTTGAAAGA
CGGCGCGGGGCAATTGGCAAAATGGATTTCACCGCGGCCCAAAAGTGTGCGACCTTCGTA
AATCTGATAAAAGGGATTGGGCTGACAATTGCGGGTTTGATGCCGTCTGAAACAGGGTT
CAACACGGTTTGAACAAAAGAAAACAACGCCTCCCTACTGCCTAAAACCGGCAGAATTTT
25 ATTATCCGCATCCACTGTCAAGCCATCGTAACGGCGTTTTAACCAGTTTGACACGCCTG
ACGCAGTTCAGGCAGACCGGCGCTCAGCGGATATTTTTCCAACCTCGTGAATGAGGCGGT
CAGCGCATCCGTAATGACTTTCGGTGTGGATGTTTCGGTTCGCCAATGTGACGGGGGAC
GGCTTCCAGACCTTCGGGCGGGAAATGCCCTGCATCGCTTCACGCAGTCGGGCAAGGG
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30 AAGATATGCCGTCTGAACCTGACGTGTCTTTCAGACGGCATTCTATATTTTGTAGTGA
CCCGTACTGCCGAAGCCGCCCTCACCCGGCTGCTTCCGACAACTCCTCGACACGTTTG
AAGCCCGCTGCACGATTGGCAGACAACCATCTGCGCGATACGCTCAAACGGTTTGACA
GTAAACGGTTTCGCTGCTTCTGTTCCATAACGACACCTTCAATTCCCTTGATAATCGGAG
TCAATCAAACCGACCAAAATGCCCCAAACATGCCGTGTTTATGCCCAAGCCGGAACGG
35 GGCAGCAAAACGGCGGCATATGCGGGATTTCGCCAAATAAATTGCCAAACCCGTCCGCACA
AGAAACGTTTACCCCGGCTGCAAAACGACTTCCTCATCAAACAGGCGCGCAAATCTAAA
CCTGCAGAACCTCCGTTGCATAGACAGGGACAACATCCGCCATCCGTTTCGTCCAACT
TTCAATTTCTACTTCAATATTCATCGTCTTGCTCCTGCATACGGCCGGTTTCAAAGATGGG
AGATTATACACAAGCCGTGTTTACGCTGAAACACGGCAAATCGGTTTTGTTTTGAAATCC
40 GTTGCCAGTGATAATTCCCGCCCTTCCGGTTATGAAGACGAACATTATGCACACCTTCC
CCGCATAACGAATTTATACGCGGCATCAAAGAAAGTTCGCCTATGCTGATTGGGCTGCTG
CCTTGGGCATTAATACTCGGTATGCAGGGCGGACAAAAGGCATGAGCTGGCTGGAAATG
TTGTTGATGACCAATGAACTTCGCCGGCGGCTCCGAGTTTGCCACGGTCAACCTGTGG
GCGGAACCTCTGCCGATACTGCTTATCGCCACCGTAACCTTTATGATTAATTCTCGGCAT
45 ATCCTGATGGGGGCGCGCTTGCCCCGCACCTGAAAGGAATACCGCTGAAAAAGCCGTG
CCCGCACTGTTTTTATGTGTGATGAAAGCTGGGCGATGGCATTCTCCGAAATCCAAAA
CGGAAAGCAGCCGTTTGCCCGCATTCATATGCCTTTTTATAGTGGATTAACAAAAACC
AGTACAGCGTTGCCTCGCCTTAGCTCAAAGAAAACGATTCTCTAAGGTGCTGAAGACCA
AGTGAATCGATTCCGTACTATCTGTACTGTCTGCAGCTTCGCCGCTTGTCTCTGATTTTT
50 GTTAATCCACTATAGATCGTATTCCCGCGCAGGCGGGAATCTAGACATTCAATGCTA
AGGCAATTTATCGGGAATGACTGAAACTCAAAAACTAGATTCCCACTTTCGTGGGAATG
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CGCGCAGGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATTGAAAATGACTGAAACT
CAAAAACTGGATTCCCACTTTCGTGGGAATGACGTGGTGCAGGTTTCCGTATGGATGGA
55 TTCGTCAATCCCGCGCAGGCGGGAATCTAGACATTCAATACTAAGGCAATTTATTGAAAA
TGACTGAAACTCAAAAACTGGATTCCCACTTTCGTGGGAATGACGCGGTGCAGGTTTCC
GTACGGATAGGTTTCGTCAATCCCGCGCAGGCGGGAATCTAGACATTCAATGCTAAGGCAA

TTTATCGGGAATGACTGAAACTCAAAAAACTGGATTCCCACTTTCGTGGGAATGACGGCG
GAGCGGTTTCTGCTTTTTTCCAATAAATGACCCCAACCTAAAATCCGTCATTCCCGCGCAG
GCGGGAATCTAGTCCGTTTCGGTTTTCGGTTTTTTGGCTAGTGCCGCAACATTAAATTTCT
5 AGATTTCCCACTTTCTGGGAATGACGGCGGAGCGGTTTCTGCTTTTCCAATAAATGACC
CCAACCTAAAATCCGTCATTCCCGCGCAGGCGGGAATCTAGACATTCAATGCTAAGGCAA
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TGCAGGTTTCGTGGGAATGACGTGATGAGGTTTCCGTATGGATGGATTTCGTATTCCCGC
10 GCAGGCGGGAATCTAGTCCGTTTCGGTTTTCGGTTTTTTGGCTAGTGCCGCAACATTAAAT
TTCTAGATTCCCACTTTCGTGGGAATGACGGCGGAGCGGTTTCTGCTTTTCCAATAAAT
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GCAATTTATCGGAAATGACTGAAACTCAAAAAACTAGATTCCCACTTTCGTGGGAATGAC
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15 TCAATGCTAAGGCAATTTATCGGAAATGACTGAAACTCAAAAAACTAGATTCCCACTTTC
GTGGGAATGACGGGATGACAGGTTTCGTGGGAATGACGTGGTGCAGGTTTCCGTACGGATGG
ATTCGTATTCCCGCGCAGGCGGGAATCTAGACCTGTTCGGTTTTCGGTTTTTTGGCTAGT
GCCGCAACATTAAATTTCTAGATTCCCACTTTCGTGGGAATGACGGGATGTATAGTGGAT
TAACAAAAACCAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTG
CTGAAGCACCAAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGTGCGCTTG
20 TCCCGATTTTGTTAATCCACTATACCCATAAAAAATACCGTCTGAACATTGATTTTCAGA
CGTATTGGCAAAACAACTTATTTTTTACGATTAGAGAAGGCTTCACAGCCGACATCTG
AGGACAAGGTCTCCAATGGGCTTGGGCGAGAAGCGGCATCACGGCATTGTATCCGTGCG
CCACGCTGTTTCATCCATACCGACAAAGTATAACCCGTCCCGCCTTCGGAACGCCGACCA
ACCTGTATGCCCTTGATTTTCTTATCGACAACTTTACCGAAACACTATATTTTTTGG
CAATTTTTCGGATTCACTTATAGCCTGAGACAAATATTCCAGTTTGTTCGTATGGTCT
25 GATTATCGTCCAGGGGATTTTCAAAATAAACTGTTTGGAATATTGTTGATACCGACCA
TCTCCGTATAAAGCTGGGACTGATAGCCTTTTCAATATAACTTTGATAAGAAGGTATGG
CAATGACGTGATAATGCCGAGTATCGCGACGACTATCATCATCTCAATCAATGTAACCC
CTTTTTGTTCCATTTTATTACTCATATTATTGCTTACATAAGATTGAAGGACGACCAG
GTATTGGCATTCTTACCCCAAGCCTTGGCAGTAACCCGATAAACATTTTCTCCGTTCTTC
30 ACGCCCAATATTCGATAATATAACGTGGCATTTTGCTGACGCTTCTCGTGCCTTTCTTA
TATTCCATCCCTTTCTTGTCAATGCACAGGTCGGTAGAATTTGCAGGGCAAGAACGCTTC
ACCGCCTCAACGGTGGGCTTGCCTTGACACAGATATTGTCAAAGCCTCTTCATTATCA
TTATTTGTCCGCACATTCACTGCGGCACACAGACCTTTTCCACAGTTTTCGCTAAATGTA
ACCTACTGTCCGTATCATATTCCAATCCAAACCTGAAGTTCCGCTTCCCGCAAAGCC
35 GCCTCGGCCAAAGCAAAAGCCAATTTCCTGTCTGATTTCGTTGGCACTGATCCGCTGCTCG
GTATTGTAAGACTGCGCGGCAAGTTACAACCAAAAAAGCCACGACGATCATCACCATCAGC
ACGATAAACAGTGCAAACCCCTCTGTCCGTGAGAAGTCGGGATTCCCGTCAAAGTGTTCT
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40 TGTCTGAAGAAGCGGCAATCTTGGTATCAGTACCGCTACTCAATAAAACCTCCACCCCGG
CGGGCGTAACAGCATTTTGGGCGCTGTGCAATTTATCCGTATATTGAATGTTTCTCTTT
TGCCGGCATCGTCATCTTCAGGACAGCCGGAACATAGATATACCGCACTTTCATATGTC
TAACCTTTTTTACGAGCAACTGAGGATTACCCCACTTGCCCTTATCATCCAATTGGAAGC
GGAACAAACCTTCTCATCGGCAATCCTGCCGACCGCATAGGCATTGACCACATGCCTTT
45 GACGCGCTATATTGCCATTTTGTCTCTTATCCTGATCCGGAATCTTCAATCTTTTTTTG
CATCTTCTAAAGTAGGGATTTGCTTGCCCGGTTTCGATATTGCGGCACAGCTGCTGACGA
CGGTAGTCGCGGTGCTTGCAATTAACATCATCGATTCCGTATTGAAAAATCAATGCGCTAC
CAACCTGGAAAAAATCTGATAATTGATATTTGAAGATTCCGCTATGGGAATAAGTTTAT
CTATACCGTTCTCTTTTAAAGGAAAAAGGAGAATTTGTTGCGTCGTATCGGGAATAACAT
50 CAGTTGCGAGGATGCTCGGACATATTGAAACAACCGAAGCCGCTGCCATTCTCGCATCGC
GGACAATCAATGTTGCCGATTCGCAATCCTGTTGCGCGGCAAGACGCTCGTTTGGCG
CATCATTTAATTTCCGGGATGTGAAGTAACTCGATCCGACCGCCATCAGGACAATCATAC
TGAGCAGGCGCCGCAACCAAAATTAATAATGGTAAACCTTTCATACCATCATAACTGC
CTTTTGGTACGTTTAGCATTTTACGTCTCATTTCCCGACCTCCGACCTTGCTGATAAGT
ATATACGATATTGTCGCGCTCACCTCAAGATTTCGTACGGGAAATATCCGAATCCCTGC
55 CGAATCATTTACCCACAATCTTAATTAAGTATCCCCGTTTGCTTATTGTGCAATT
TGAAGAAAAAGCATTGCCGACAAATGTCGGCGCGTTACCCGACGAATCCTTGACAGCGGC
GTAATGGATGGCTGCCGCATCCGGCAAGGCATTTTTCAGCTCATAACTAAATCTCTCAA

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TTGTGCTCTGCCAATTGCCCTTAGTTTTCATGGCATCAATCGCAAATCGCCATCCAC
AGCTGATAGTGTATGGTTTCCCATGTAAAGATTATAGTTTTTCTGTTGCTGTCCGAATC
AATGGTCGGATTTCATCAACATTCCTCCATCAGGTTTTGCGTGATTTGGCTGACGATGGT
5 TTGTGCTCCGCCCTCCCTGACGGAAGCGACTGTCCGCAACTGTACAGACAATAGTGCCAA
AATACCGATGGTCAGAACGAGCATAGCAACCAAGACTTCTATCAGCGCCATACCGGACTG
GGAACTCTTTTCAAGCGGAAGCAATCATTATTCTTCATATTCATTTTTAAACTGAACTGT
TATTTATACTGGCACATAGTACGCCGATCACCCCTAGGGCAAACCTTCGACCCTGCCGCTG
CTGTTAATCAAAACCACCGCCGAACGGAATTTCTTTTCATCGGCAGAAACCGCCTTCGCA
10 TCTGTCAACACGATTTGGATATAACCGTCAGAATAAAAAAGCTGGATTGTTTGTAAAGA
TGCTGGTCTTTTCGTATAACCGAACGTCCTGTTTGGATTGAATGTCCAAACTACACGGTCG
GTGGTCGGCTGAGTCTGACCGAAAGCGATATGGTTGAAGGCATAATTAATCCGCTTATCA
TTGATATCATCTTAATACCACACTGCGGAGAAGAATCCTCCGTATCATTGTCATAT
CCCTTATTCGGTTTTTGTGCGCGAAAGCCAACATTCCTGCCCTTCTTGCCGGAGTCA
CATTATTGTTGGGCGTACCGTCTTTTTTAACTTGAACAGGACAGATATAGACAGGGAGA
15 TTGAGCCGGACGGCTTCGCCCCGAGAAACGCAAAAGGTTGGCAATCCGCTCCGCGTGA
CTGGCAATGCGGCGGATGCAATCCATTGGCTCATATTGGGGAGGGCTATCATCGCCATA
ATGGCTGCAATGACCATCACGATGAGCAGCTCTGTTAGCGTGAAACCTTGTGTTTTCGT
GTACACATAAGCAATAGAACGTTAACTGGTAATGTATCGTGGATTAAATTCAAACAGTA
CGGCGTTGCCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTCAAGCACCAAGTG
20 AATCGTTCCGTACTATTGTCAGGTTCTGCGGCTTCGTTGCCTTGCTCTGATTTTTGTTA
ATCCACTATATTTTCAATTATATGCGGGCTGAATGCAAAAATGCCTCAAGACCGCGTTTT
ATTTTTTAGGGCAATCTCTCAGCATGATTTTAAACGATTTTGCTGATTTGCGCTAATAA
ATTTTTATATAGCCATTTAATCCTCTATCTTGCCTCCTCGGGAATATAGGCAGCATTGT
CGAATTTGGTGAAATGTCCCGTCCATGTGAGGAAGATTTTACCGACGGGACCGTTGCGGT
25 GTTTGCCGATGATACATTGCGCAAGGCCTTTTCATGGGTGAGTCCTGGTTGTAGTATTCGT
CGCGGTACATGAACATAATCAGGTCGGCATCCTGCTCGATTGCGCGGACTCGCGAAGGT
CGGACATCATGGGGCGTTTTGTCGGTACGCGATTGACCGTGCGGCTCAATTGCGACAGGG
CGATGATGGGGACTTGCAATTTCTTCGCCAACGCTTTGAGCGAACGTGAAATCTCTCCCA
GCTCCGAAGCTCGGTTGTGCGAACGGCCGGATCCTGCCATCAGTTGCAGGTAGTCGATGA
30 CAATCAATCCAAGCTTATTGTTAAATTGACGGGCGAGACGGCGGGCACGGGCGCGCAGTT
CGAGCGCGGTGAGACCGGGGTCTCGTCGATGTACACGGGCGCGTCCGAGAGTTTGACGA
CTGCTTCGTTCAAGCGACCCAGTGTTCGTCTTCGAGCCTGCCGTTTTCAAAACGCTTT
GATCCAACCGTCCGACCGAGCCGAGCATACGCATGACCAGTTGCGCCCCGCCATTTCCA
TCGAGAAAACAGCAACGGGCGAGCCTGCCTTCTACGGCAACGTGTTGCGCGATATTGATAG
35 AAAAGGCGGTCTTACCATAGACGGACCGGCAACGATAATCAGGTCGCGGGTTGCA
GACCCGAGGTTTTTTTTGTCGAGGTGATGAACCCCGTCGGCACGCGGTAATTCATCGG
GATTGTGCGCGAGTAGAGCATATCGATGCGCTGTACGACTTCTTTCAGCAAATCGGGCA
TCTCCAAAAGCCCTGCTTGGATTGCGGCTGCTTTCGGCGATTGGAATACTTTGTTTT
CCGCTCCTCCAAAAGCTGCCCGCGTCCCTGCTTTCGGGATTGTATGCGCTGCGGGCGA
40 TTTCCGTCCCCACTTCGGCGAGTTGGCGCATAATGGAACGCTCGCGCACGATTTTCGGCGT
AGCGGCGGATGTTGGCGGCGAGCGGGGTGTTTTGCGCCAGCGTAATCAGATATTCGAATC
CGCCTGCGCTTCCAATTCTTCGTTCCGCTGCAAATCTTCTGAACCGTAATCACATCGG
CGGGACGGCTCTCATTAATCAATTTGGCAATGGATCGGAAAATCAGGCGGTGTTTCATGCC
GGTAGAAGTCTTCACCGGAAACACATCGGCAATCCTGTCCCATGCCGATTTTCCAGCA
45 TCAACCCACCCAAAACGGATTGTTCCGCTCCATTGAGTGTGGGGGCGAGACAAATGCGC
CGACCTCACGGTCTTCAGACGGCATGGCTGCGTAATCGTTCATGGTACATCCTATCTGTC
GTGCCGAAATTGCAATCTTCTATTATAGCGTAAAGCAGGTTAATTGGTTTTCCGACCGC
AAAACAGGTAGAATACACGGGCTGCCGAGTTATTTGCAGCAACACTGCCAAAATACAACA
TTTAAACAATATTCAAGGATACAAAATGGAACATAAGCTGCCGCAACTGCCTTATGAAC
50 TGGACGCATTGTCCCGCATCTGAGCAAAAGAGACTTTGGAGTTCCACTACGGCAACACC
ATCAAACCTACATACCAACCTGAACAATCAAATCAAAGGCACCGAATTTGAAAACCTGC
CTTTGGAAGAGATTGTGAAAAATCTTCAGGCGGCGTGTCAACAACGCGGCACAACTT
GGAACACACCTTCTACTGGCTGGGTTTACGTCCAAAGGTCAAGGCAACCTGCCGGCG
AACTGGCCGCCGCCATCGACGCGAAATGGGGCAGCTTCGAGAAATTCAGAAGCGTTCA
55 ATGCTGCGCGGCGGCTACTTTCCGCTCCGTTGGGCGTGGCTGGTAAAAACCCCTGCCG
CGGATTGGATTGGTTTCTACTTCCAACGCCGCTACGCCGCTGACCACTGAAAACACGC
CGCTGCTGACCTGCCACGTGTGGGAACGCGCTATTACATCGACTACCGCAACAGCCGTC

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CCAAC TACCTGAAAGGTTTTTGGGAAATCGTCAACTGGGACGAAAGTCGCCAAACGTTTTG
CCGCCTTGTCCTGATTTTTGTAAATCCGCTATATCATTTCCGGTAGATTTTTGCGGTATT
GAATTCAGTTATTTCCGATAAATGCCTGTTGCTTTTTATTTCTAGATTCCCACTTTCGT
5 GGAATGACGGTTCAGTTGCTACGGTTACTGTCAGGTTTCGATTATGTTGGAATTCGGG
AACTTATGAATCGTCATTCCCGCGCAGGCGGGAATCTAGACCTTAGAACAACAGCAATA
TTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCGCGCTTTCGCGGAATGACGGAAA
GTGGCGGGAATGACGGGATGTAGGTTTTCTTAACCCTGCGTCTTAGATTCCCGCTTTGTC
GGAATGACGGAAAGTGGCGGGAATGACGGTTCGGGCATTCTTAAATTACCGTGTATC
10 GCTGTAAATCTTAGAGATGGCGGAATATAGCGGATTAACAAAAACAGTACGGCAAGGCG
AGGCAACGCCGTACTGGTTTTGTTAATCCGCTATAATTGATGAAACGGGTAAAAAAGT
GTTGCCATCGCCTGTTCTTCTTGTCGGATACGCTTAAATAAGACCAGCAAATAAATGGGC
AGGCCAATCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 55>:

15 **GNMAB42F gnm_55**

TGACCCGGCATTCCCTTCCTGCCTGCGTTGTCGGACGCTTTTTCAAATTCCGATTCCGC
CGTTTCGTTTTTCGGGAACACGATTTCCGCGGAAGATGAGAAAACAAACGTTTACAAG
GTTTTGCTCCACGGCGAACAATTCGGTATCGCCTATCCTGCTTTTGCTGAAAAATTCATG
20 GAGCAGGTTTTCTTTTCTTTGTAATTGTCGGTTTTGACGGCGAGGATGCGTTCCAATCC
GGCAACGTTTCGCATAACCGTTGTTTTCCAAATGGCGCATTCTGCCTTCAAATTGCTTAC
ATCCGAAATGCCGATTTTATACACGCCCTTGATGACGGTTTnATCAGATAGACAATGCC
TGACTTTTCCATATCGATGTTTTTCAAGTGTTTTCGAGCCTTCAGACGGCATCGGATTAT
TTCTATGCCGTCTGAAACCGTTTAAGTATCAAATATTATCGACACTCTGGCCTGTnAGCG
25 CGCGTTGGATGTTGCGGTTTCATGCGTTTGCGGCGGAAATnTCGGTGATGCTGCCGAGTT
TGCGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 56>:

gnm_56

CCGCACTGATTTTCGAAAATCGGTACATATATCATCAGCGCGGGCGGCAAACGCCTGCGTC
30 CGATTATGACGATTTTGCGGGTAAGGCGGTCGGTTATGATGACGAGAACTGTATTGCG
TGCGGGCGATGGTCGAGTTTATCCACACTTCCACCCTCCTGCACGACGATGTCGTCGATG
AAAGCGATTTGCGCCGTGGGCGGGCAACGGCAAACAATCTGTTTCGGCAATGCGGCGGCTG
TGTTGGTTGGCGACTTTTTATACACGCGCGCCTTCAACTGATGGTTGCCTCGGGCAGTA
TGCGCGTTTTTGGAGTGATGGCGGATGCAACCAACATTATTGCCGAGGGCGAAGTCATGC
35 AGCTGATGAACATCGGCAATACGGACATTACCGAACGAACAATATATCCAAGTCATCCAA
TATAAAACGGCAAAATTGTTTGAAGCTGCCGCTCAAGTCGGCGCAATTTTGGGCAAGGCT
TCCCCGAACACGAACGGGCGTTGAAAGACTACGGTATGTATGTCCGTACGGCATTCCAA
ATTATTGACGATGTGCTGGACTATTCTGGCGAAACCGACGAAACGGCAAAAACCTCAGCGA
40 CGATTTGGCGGAAGGAAAACGACTTTGCCTTTGATTTATCTGATGCGTCAGGGTCCGAA
CA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 57>:

gnm_57

GGCTGCTGCGAGGAAGATGTCGGGGCGGGTTTGGAAATGTGCGACGGCGGCAGGGTCGGC
45 AATGGCGTCGAAGAAGTGGGTACGCCCCATGCGTTCCAGCAGGAACGGGCCGTTTTTACT
GGCGGACGCAAGGGCGATTTTTTTGCCGTTTGCCCTCAATGCTTCCAGCAGGGGCAAAAT

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5 GCGGGGATACACGTCTTCGGGTTTACTGCCTGAATCATCTCGACGTAGTTGTCGTTTTT
ACGGCGGGTCAGTTTCGGCGAACTCGGCTTCGCTGACGGTTTTGCCGCCGTGCGCGAGGAT
GCGTTTTGAGCGAATCGTCGCGCGACACGCCCTTTGAGCTGCTCGTTAAACTTTCGGGTCAAT
GCTGATGCCAGTTCTTCGGCGAGCTTTTCCATGCGCGGTAGTGGTATTCGGCGGTGTC
10 GGTGATGACGCGTCGAGGTCAAATAGGACTGCAGTGAAAGTCATTTTGCGCCCTCCTTA
TTTTTCCAACGCAACGGTGTGGCTGCCGTGAGCGTGATGTCTTTGCCGTACACCTGCAA
ATCGAGCGACTCGCCTTTGAGCAGAGTGAAGACGACGTTTTCTTTGCCGACGGCGACTTT
AATCAGACGGCGCGGTAGTTGATGTGAAGGCGTAGCCTGTCCACGCACTCGGCAGGAA
CGGTGCGAAGCTGAGTTTGCCGCCAGGTTTTCTTTGGGCGAAACCTTGGACGATGGC
15 GAGCCACGAGCCGGTCATGGAGGTGATGTGAGGCCGTCTTCGGTGTGTTGTTGATGTT
GTCCAAGTCCAGGCGGGCGGTGCGCTGGTACATTTCCACGGCTTTTCTTCTTTGCCAG
TTCGGCGGCGAGAATAGAGTGAATACAGGGCGACAGCGAGCTTTTCATGCACGGTCATCGG
TTCGTAGAAGTCAAGTTGCGGCTTTTTCGTGATATTGAAACGGTCGCTGAAGAAGTA
GATGCCCTTCAATACGTCCGCCGTGTTGATAAAGGCGAAGCGAGGATTTGTCCACGA
20 CCATTTTGGTTGAGCGGCAAATCGTCGGGCGAAAGCGCGACACGGGCGGATGTCTTT
GTCGAGGAAGCCGTGCTGCTGCACGAATACGCCGAGTTCTTCGTATGCGGACGGTACAT
ATTTCGCGCTGATGTCCGCCATTTTCCAACCTCGTCGGCACGCACGTTCAAATCCGGACG
CGGGTATTTCCGCAAGGCTTCGCGGGTGTAGTCCAATACCCATGCGGCGAGGGTGTGGT
GTACCAGTTGTTGTTGATGTTGTTTTCGTATTCGTTCCGACCGGTTACGCCGTGAATCAT
25 GTATTTGCCGTTGCGTTTGGAGAAGTGGACGCGGTCCGCCAGAAGCGGGACACTTCGAC
CAAAACCTTCAAGCCTTCTTTGGCAAGATAGCCCTCGTCGCGGTGTAGTTGGTGTAGTT
GTAGATGGCGTAAGGAATCGCGCCGTGCGGTGGATTTCCTCGAAGGTGATTTCCATTTC
GTTGTGGCACTCGATGCCGTAAACGTTACCATCGGATAGAGTGGCGCCGCAAGCCCTG
TTCGCGCGCGTTGTGCTGCGCTGCGGCAGTTGGTTGCGGCGGTATTCAGCAGGTTGCG
30 GGTAACTTCGGGTTTCGGCCAGTGCAGAGGTAGAGCGGTACGGCGTAGGCTTCGGTGTCCCA
ATAGGTTCGCGCCGCGCTATTTTTCGCCGTAAGCCTTTCGGGCGGATGTTTCAGTCGCGC
GTCCTTCGCCGTAGTAGGTGGAGAACAGTTGGAACAGGTTGAAGCGGATGCCCTGCTGCGC
TTCGTCGCTCGCTTCGATGACCAGTCGCGGATTTCCCAACGGTGCAGCCAGCCTGCTTT
GTGCGCTTCAGCAAGGTTTCAAACGCAACGCCGTGCAATTTTTTCCGACAAGGCGCGGCC
35 TGCGGCTTTCAGTCTTCCAAGCTCTGATAATCGCGGCTGGTGGTAACAATCACGCGTTT
TTCAAAGGTTTCGGGTGTGCTGCCGACTTCGGATTCAAAGAATTGGAGACCTGCCAGTC
GGTTTGGCTGCCGCCGAGGGCTTTGAAGCTGCCGGCAAAGGTTTGTGCGCGTTGACGAT
GAATTGTTCCACGCCGAAGGGATTGGCGACGGTTTGGGCGGCAATGTAGGAGAGACTGTC
TGAACGCCTTTGTCCAATACCTGCCAGAATTTTCTTCGTAGTTGGAGTCTTCGTTTTT
40 CACGTCGGCATCGATGATGAATCGATGCGGACTTGGTGGGTTTACCGTCAACGGATAC
GGCTTCCAGCGGATGACCGCCAGCTCTTTTGTGCGACAGACAGGAATTTGCACACATT
GAAACGCACACCGAATACGGTGAACGAGCGCGCAACACGCCGTGCTGCATATCGAGTTC
GACGGAGAAGCCAGCAACGTCGTTTTTCGCCAAGTCCACTTCCTGCCCGTCGACAAAGAT
TTTACTTTGCTGAAATTGAACGCGTTGATGGCTTTGCCGAAATATTTGGGATAGCCGTT
45 TTTCCACAGCCGACGCGGTTTGTGCGGGAACACACGCCGCGATGTAGGTGCCATA
GTGGCTGTGCGCGGAATAGGTTTCTCAAAGCTGCCGCGCATACCCATATAGCCGTTGCC
CAAGCTGGTCAGGCTCTCTGACGCCGTTTGTGTTCTTTTCCAGTTTTGCCGAACGCAG
CGTCCAAGGGCTGATTTCCATGATTCTTGTGTACATTTATGAAGCTCCTGTTTGGATTGA
50 TTTGAGGGAATGGTGAATCTTATAGTGGATTAACAAAAATCAGGACAAGGCGACGAAGC
CGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGTCTCAGCACCTTAGAGAATC
GTTCTCTTTGAGCTAAGCCGAGGCAACGCCGTACCGGTTTTTGTAAATCCACTATAAAAA
GGTCGTCTGCAACCGGTGTAGGAAGCTCCTAAGAAAGGGATTTCGATGCCGTAAGCAATC
GTCGCTCCCTGGTATCACCTTGTTCAGACGAATATTGCCGAACCTCGGGCAATTCAGG
55 CTGTGCGGCGAGCGTGCCTCGCTCGCCAGCGCGTCGTAACGCCCGCATCGTGCCCG
GCGAAATCCTGCGGGCGCGGTAAAGATGACCAAGCCATTGCGGTGCTGTATATGCTG
ATACGACGGCGCGCTCCGGCTTGCAACACAGCGCGGGACGGCTATATCGGACGGCACG
CGGTAAGCGTCTGTAACCGGCCGACCCGTTTCGCGGCGCAGGGCGGCAACGGCGGCA
TCCAGCGGCTTGGGCCGGCTGAAATCAAATACTTCGAGGTGCTGTGAAACCGTTGAGACG
GGCAGTTTTTCGGCATCGGCCGGCATATGTCGCCCTGCGGAATATGCAGAACCGCATCG
60 TGCAGGCCCCGCTCCAGCCGCCAGTAAATGTGCAGCGTCGGGTGCAACACCGGTGTCGCCG
AGCGCGGTGGCGGATAGCTAACGGTAAGCCGGTCGTCTTCGTCCAAGCGGTAGGAAATA
TCCAAATCCAATCGTTGGGATAACCGTCGGCCGACTGTTGCAGGCGGTGCGCAGCACC

ACCGAACGGCCGTCTGCCGCCACCGCGTTGAAACGGGTAAACGGCCAGCCCGTGCGAACCG
CCGTGCAGCGCGTTCCCTGCCTTCGTTGGCCTCCACGCGGTAAGTCCTGCCGTTGATGTCG
AACGCCGCACCCGCGGATGCGTCCGGCCACGCGCCCTATCTGTTTGTAACTCTGAAACGGA
TTGTCCGCATAGGAAGCCGCATCATCGAACGACACACGAGGTTTTCGCGCACGCCGCTCT
5 GCCAAACCGGAAAATTCCTGCACAATCCCGCCCAAGTCCAGCACGACGACACGCGTACCA
CGCCGGTTGGACAGCACATAGCCGGTTACGGCACGCCCGTCGATCAGACCGAAATCGCGG
GTAGCGGGGGTATCGCTCATCGCTCAAACCCCGCGTGTGTTTCTTTAATCAGGAACACG
GAAAACGCGCCAGCAGCAGGACGACGCCCCCTACCAAGAACATAGTGGCCTGCAAGCCG
10 CCCAGCATAGGGAAAAGCACGAACTCAACAGCGAAGCGACGATTTGAGGCATACAGATA
GAGCCGTTAAACAAGCCCAAGTAAGTGCCCATATGCTTGCCCGACAAGGCGTTGGTCACA
ATCGTCAGCGGATAAGTGATAATGCCCGCCCAAGCGATGCCGATTAAGGTATAAGACAAC
ACCAGCGCGTATTGGTTGCCGATGAAGAAAACGGAGAAAAGCCGAGCGCGCCCAAAGCC
AAACAGCCGAAATAACCCGCTTATGGTATTATTTCGGCACTTTCGCCAATACAAACGAA
15 CAAATCACC CGCCGCAACCGACTGACCCGCCCAAACGCGTACCAGTTACCCGCTCC
TGATAACCTACGGAAGACGCATCGGTGGTGTGCCAGACGTTTCCGCAATCGCGCCTGCC
GAGTAAGTCCACATATATTGGAAGGCGAACCAGCAGAAGAATTGCACCAAAGTAACCGTC
CAAAACGCCCTTAGGCGCGGTTTTCAAGAGTTCGATCCAGTTGGCTTTTTCTGATTTCGCG
GCGACATCGATGCCGTGGTAACGGGCGTAGGTTCCGGATCGTATTCTTCACTTTGAAA
20 ATCGTGAACGCGCTGGTAATCACCAGCAACGCCGCACCCACATAAAACGCCACGACACG
GTCTGCGGCACAACGCCCTTCTCGGCGGTGTTCGCCAAACCGATATACGCAACACAAAC
GGCAGAATCGCCGCCACGACCCGCCGTATTGCTAAGAACTTTGAATCCCGTAGGCG
TAGCCTTTCTGCTCCTCGTTGACCATGTCCGCCGACCATCATCTTAAACGGCTGCATCGCC
ATATTTGACGACACGTCTAACAGCGCAATCATCAGCGCGCCGAACGACAAAGCCGCCAGC
25 GACGCATAGCCGAAACCGAAGCTGCCCGAGTTCGGCATCAAATCATCACAATAACCGCA
ATCAGCGTGCCATAAAGCAGATACGGCAGACGGCGGCCCAAACGCGGCTTCCAAGTG
CGGTCCGAGTAATGGCCGACAATCGGCTGCACCAGCATCCCCGCCAGCGGCGGCGAGGATG
AAAAACAGCCCAAATTGTGCGGGTCTGCGCCTAGCGTTTGAAAAATGCGGCTCATTTGC
GAGCTTTGCAGGGTAAGGCGGCTCTGAACGCCGAGAAAGCCGAACTGAGCATCCAAATC
30 GTGTTTTTGCCAGCGCGGGCAAACCTTGTGTTGCTGTTGAGGCGTATATTCCGACATA
AGGTAAATCCTTTTTTGATTTGAAAAGTATAGTAGATTAACAAAAACAGTACGGCGTTG
CCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAGGTGCTGAAGCACCAGTGAATCGGTT
CCGTACTATCTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTTGTAAATCCACTA
TATTTGCTTTGGAAAATCCGAAATGGTTGCCGGGGCGCGCATCCCTATCATATTATTT
35 TTTTGTCTATATAATTTCAAAGGGATAAGCGGATTTTATGAATCCTGCCGATTTTGGA
ATACCGGTTCCGCGATAAACTGGCTTAAATCAAATTATCGGTTAAATGGCCGCTGAAA
TTGTTTTGATGAAAACGAGAAAACCATGTCCCAACAATACGTCTATTCTATGCTGCGCGT
GAGCAAGGTTGTGCCGCCGAGAAAACCATCATTAAGATATTTCCTTTCTTTCTTCCC
CGGCGCGAAAATCGGCCTGCTCGGTTGAACGGCGCGGGCAAGTCCACCGTGCTGCGGAT
40 TATGGCGGGCGTGGATAAGGAATTTGAGGGCGAAGCCGTGCCGATGGGCGGCATCAAAT
CGGCTACCTGCCGCAAGAGCCTGAGCTTGATCCGGAAAAACCGTGCGCGAGGAAGTGGA
AAGCGGTTTGGGCGAAGTGGCTGCCGCGCAGAAACGTTTGAAGAAGTGATGCCGAGTA
CGCCAATCCTGATGCGGATTTTGACGCGTTGGCAGAAGAGCAGGGCCGCTTGGAAGCGAT
TATTGCGGCAGTTTCGTCCACGGGCGCGGTGCGGAACACGAATTGGAATCGCCGCCGA
45 CGCGCTGCGCCTGCCGGAATGGGATGCCAAAATCGATAATTTGTCCGCGCGTGAAAAACG
CCGCGTTGCCTTGTGCAAACTCTTGTGAGCAAGCCCGATATGCTTTTGTGACGAGCC
GACCAACCACTTGATGCCGAATCGGTGAGTGGCTGGAGCAATTTCTCGTGCGCTTCCC
CGGCACAGTCGTTGCGGTAACGCACGACCGCTACTTCTCGACAACGCCGCCGAATGGAT
TTTGGAACCTGACCCGCGGCCATGGTATTCCGTGGAAGGCAATTACTCGTCTTGGCTGGA
50 GCAGAAAGAAAAACGCTTGGAACGAGGCAAAATCCGAAGCCGCGCGCGTGAAAGCGAT
GAAGCAGGAATTGGAATGGGTGCGCAAAATGCCAAAGCCGCCAAGCAAGTCCAAAGC
GCGTTTTGGCTCGTTTTGAAGAAATGAGCAACTACGAATACCAAAAACGCAATGAAACGCA
GGAAATCTTTATTTCCGTTGCCGAGCGTTTGGGTAAACGAAGTGATTGAATTTGTAAATGT
TTCCAAATCGTTGCGCGATAAAGTGCTGATTGACGATTTGAGCTTCAAAGTGCTGCGGG
CGCGATTGTGCGCATCATCGGCCGAACGCGCGGGTAAATCTACGCTGTTCAAATGAT
55 TTCGGGCAAAGAGCAGCCTGATTCCGGCGAGGTGAAAAACGGACAAACCGTGAAAAATGAG
CTTGATTGACCAAAGCCGCGAAGGTTTGCAAAACGACAAAACCGTGTCGACAACATTGC
CGAAGGCCGCGACATTTTGCAGGTTGGTCAGTTTGAAATTTCCCGCCCGCCAATATTGGG

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5 GCGTTTCAACTTCAAAGGCAGCGACCAAAGCAAAATTGCAGGTCAATTGTCTGGCGGCGA
ACGCGGTCTGCTGCACTTGGCAAAAACCTTGTGAGCGGCGGCAATGTATTGCTGCTGGA
TGAACCGTCTAACGACCTTGACGTGGAAACCTGCGCGCGTTGGAAGACGCATTGTTGGA
ATTTGCCGGCAGCGTGATGGTGATTCGCACGACCGTTGGTTCCTCGACCGCATCGCCAC
10 GCATATCTTGGCGTGTGAAGGCGACTCTAAATGGGTGTTCTTCGACGGCAACTATCAGGA
ATACGAAGCCGACAAGAAACGCCGTTTGGGCGAAGAAGGCGGAAACCGAAACGCATCAA
ATACAAACCGTTACGCGTTAACCCTCCGAAACAATGCCGTCTGAAAGGCTTTCAGGCGGC
ATTTTTACAAGGCAGCACCGTTTTAAAACAGCATTGCAATCCTCAAGACAATCAAAGTCAT
CACCGCAGCCGCCATATCGTCCGCCATAATGCCCAAACCGCGTGCAGATTCTTGTCAAA
15 CCAACCGACGGGAGACGGTTTGGAGCGGTCAAACAGACGGAATAGGACAAATGCCGCCAG
CCACCACGTCCACCTGAACGGCACAAACGCCAGCACAAACAGCATGGCGACAATCTCGTC
CCAAACAATCCACCGTGGTGGTGCAGACCCGTTTACGTTCCGCATAAGCGCAAATGCG
TATGCCCCACATAAACAGCACGATACACAAAAAGCCAGCAGTAGCCCGTCTATGCCGAG
CAAAATCAGCACAAACGCCAAAGGAGTGGCGCAAAGTGCCGAATGTGCCGGCGCGGAA
CGGAGCCAGCCCGCTGCCGAAACCGAAAGCCAAAAACACAACGGCCGTTTCAACAGCCA
CGCAAAGTCAGGTTTAAATCAGCCAAAATGATCGAATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 58>:

GNMAB61F gnm_58

20 CGGTCTTGGCGCACGCGCGnTCTTTCGGCATACATCACGCCCAAATTGTTTTGGGCTTGG
GCTACCCCTGCGCTGCCGCTGCCGAAACCATCTGACCGCTTCGACATCGTCTTGGCGC
ACTCCACGCTTTCGGCATATATCACGCCCAAATTGTATTGGGCTTGGACAACCCCTGC
GCTGCCGCTGCCGATACCATCTGACCGCTTCGGTATCATCTTGGCGCACGCGCGCCCGT
TGGCATACATCCAGCCCAAATTGTATTGGGCTTGGGCTAACCCCTGTCCGCGGCTGCC
25 GATACCATCTGACCGCTTCAGCATCATCCCGGCGCACGCGCTCCTTTGTAATACATTGC
GCCCAAATTGTATTGGGCTGCTGCATTTCCCTGTCTGCCGCTGCAAGTTTTCCCGAAAA
TCCGATACGTATCCGnCCACACCGGTTCGGTTCAAGCCCAAGGCAATCAGGGCGGCGGCA
AGCATTTGACTGTCTGTTTCATGGTTnACTTCTGTTTTAGTATAAGGCGGGTTTCAGCC
ACCGnTAACGATAGGGCTGGGCGGATT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 59>:

gnm_59

GTACCCTGCTCAAGCAGTACAATCCCGAGTATTCGGGCATTTTCATCATTTTTTAAGACAG
GAAGGGACTGATTGTGAACAAGTCTGAATTGATCGAAGCGATTGCTCAAGAAGCCGAsAT
35 TTCCAAAGCCGCGCACAAAAAGCTTTGGATGCCACTACCAATGCAGTAACCACCGCCCT
GAAACAAGGCGACACCGTTACTTTGGTCGGTTTCGGTACTTTCTACGTGGGCGAACGTGC
GGAACGCCAAGGCCGCAACCCCAAAACCGGCGAGCCTCTGACCATTGCCGCGGCCAAAAAC
GCCTAAATTCCGCGCCGGCAAAGCTTTGAAAGACGCACTGTAAGCCGTTTTTTATGAAAA
AAGCCGATTCTTTAAAGAATCGGCTTTTTTATCGGTCCACATTATTCTGATTTCAAATCG
40 GCAACACACTGCTTGTACGTGCTTCAAAGGCATTTGCGCCGCCGAGCAGGTCAAGCTGT
TCTTGTGCGCCGAGTTTGCCGAAGGATCTAATCTGTTTCTCGCTCAATCTGTCCAAAGGC
TGCTCCACATACATTGCGAGTAGTCGACGGCGAGGCGGGTATTGTTTGAATCTAAACCG
CGGGCCCGCAAATCGTTTGCCATTTTTTCGGCAAACGGAATATCTTTCACGCAAGACTCG
ACAATTTCTGTTTTTGCTTGGCATCGCGCATTTGGGAGAGCAGGGCGGTTAAAG
45 GCGAGCAACGCCAAAATGACCCACGCCCAAATGCGGATGGTGGGATTTTGGCTTTTGCT
TTTTTGCGCGCGGCAACCTGCTCTTTCGTCAGCATTTCTGTTTTCGGCTCAGTCATGCAG
GCTTTCCATGCGGATCATGGTAATCGGTTTTTCACGCAATCCAGTGCTTCGATGGCTGC
GATTGCCGACTTGATGTGTTTTTCGACCGTGCTGTGGGTGCAATCACGATTTTCGGCAGT
GGTCTGATCAATCACGCCTTTTTGAATCAGTGCTTCGATGGACACGTTTTCTTGTCGCAA
50 CAGCGCGCGGATTTGCCCCAGCGTGCCCGGTTCTGCTTTTGGCTTGGACGCGCAGGTAGTA

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GCTGCTGGTAATTTTCGTCCATAGGCAGGATGGTTTGGCCTTGGACTTGCGCGGGTTGGAA
CGCCAGATGCGGTACGCGGTGGGCGGTATCGGCTTCAACCAGGCGGGCGATGTCGATGAT
ATCGGCAACCACGGCGGAAGCGGTTCGGCAATGCGCCCGCGCCCGCGCGTAATATAAGGT
5 TTCGCCAACCATATCGGCGTTGACGCGCACGGCGTTTCATCACGCCGTTGACGTTTGCCAA
GAGGCGGCTTTCGGGAATCAGGGTAGGGTGGACGCGCAGCTCGATGCCTTTGCCGGTTTT
GCGGGTAATGCCAACAGTTTGATGCGATAGCCAAGTTCTTCGGCGTATTTGATGTCGCG
GCTGTCGAGTTTGCTGATGCCCTTCGAGGTAGCAGCGGAAAAGTTTCATCGGCGTGCCGAA
TGCCAGTGCGCTCATGATGGTGATTTTATGGCCCGCATCGTTGCCTTCGATGTCGAAGGT
10 CGGATCGGCTTCGGCATAACCCAATGCCTGCGCTTCTTTAGTACATCGGCAAACGCGCT
GCCTTTTTCGCGCATTTTCGAGAGGATGAAGTTGCTGGTGCCGTTAATAATGCCGGCGAT
GGATTTAATCCTGTTTGCCGCCAAACCTTCGCGCAGGGCTTTGATGATTGGGATACCGCC
CGCTACTGCCGCTTCAAATTGGACGATGACGTTTTGTTTTTCCGCCAGCGGGAAGATTTT
GTTGCCGTATTTCGGCGAGCAGTTTTTTGTTGGCGGTAACGATGTGTTTGCCGTTTTCAAT
GGCTTTCAACACCGCATCTTGGCAATGCCGGTACCGCGAAACAATTGACGACGACATC
15 GACGTCTTCAGTGCGACCAAGTTTGAACGGATCTTTGACAAAGGCTGCGGACGGGACAGT
TTGTGCGGCTTTTTCTTCACTCAAATCGCACACGGCAGAAATACGGATTTTCGCGCCCCAA
GCGACGGGAAATTTCTCCGCGTTGTCCCGCAACACGGCAGCCGTACCGCCGCGGACCGT
ACCCAAACCTAAAAGACCGATGTTTACTGGCTTCATTGTGTCTCCTTGTAAGCCGACTGA
AATGTAAATATTGAAAGACGAAAATATCCGCTGCCGATATAATTGTGCCGCACTTTGAAT
20 CAAATGCCGTCTGAAATCGGCAGGCGGGTCAGATGAAATCTGCCAATCCTACATGAATTT
GTCTGATTTTGCATCCCTTTCGGGTAGATGATGCGGCAACGGGGTAAAAAATGTTGTT
TGAAGAAAATCCGATAGACGGACAGTTTGCAGGAATATGAATGCGGTGCGGGCGGAATCCG
GCTGGCGGGGCAAAGTTTCCATAAACCCGTGCTTGTACATAAGGATTGCGTCTGCCTGTC
GCAATGCCGAACCTTGTCCGATCTGACTCCGAAAACCTGTTGTCCGACGTCAAACCTGT
25 TGAATATCCGAAATATTGATTATCGGGACGGGCGCGGCTCAGGAGTTTATCCATCCCAA
AATCATGGCGGATTTTTCCCGAATCGGAATCAGCGTGGAATGCATGAATACCGATTTCGGC
ATTCAGGACATTTGGTTTTCTGCACTCGGAAGGGCGCAGGGCTTGGGCTTGGCTTCAGCC
GTAAATTTCCCGTTTCAGACGGCATCGGCACTGACTTTTTCAGTAAATACGGGCTTTTCC
CGCCGAAATCCGTTTTCGTTATGATTGAAATCAAACCTCACCTGCAACGCGGTTTGA
30 AAGTCTGTCTGACAAAGCCAACGCTACCGTCAATCCCGGTACGCGCGTCGGTTTGATCG
GCAAAAACGGAACGGGCAAATCGAGCCTGTTTGCCTTAATCAAGGGTGAAATCACTCAGG
ACGGCGGCGATGTCTCGATTCCGAAAACCTGGCGGCTCGCTTCCGTTTCCCAAGAAACGC
CCGATTTGGATATTTCCGCTTTGGATTACGTTTTGACGGGCGATGCCGAGTTGACGGCTT
TTCAGACGGCATTGAGGCAGGCAGAACGCGAAAATGACGGCATGAAGCAGGCGGAATATC
35 ATGCTAAATTTGAAGAAATCGACGCTTATACCGCGCCGGCGCGTGCAGGCAAAATGTTGA
ACGGGCTGGGTTTTTTCGAAGAAGAACACAGCCGCCCGTCAAATCCTTTTCCGGCGGCT
GGCGTATGCGCCTGAATCTTGCAGAACCCGTGATTTGCCGCGCGGATTTGCTCTTGCTTG
ACGAACCGACCAACCACTTGGATTTGGAAACCGTCTTGTGGCTGGAAAACCACTTGCTT
CTTTACCCTGCACGCAATCATCATTTCCCATGACCGGATTTTCTCAACGCGGAAACTA
40 CCCAAACCATTTGAATTATCGCAGCAAAAACCTCACGCAATACGGCGGCAATTACGATTTTT
ACCAAAACGAACGTGCGCAGCGTCTCGCGCAACAACAGCTGCCTATGTCAAACAGCAGG
CGCAAATCAAACATTTGCAATCCTTTATCGACCGCTTCAAAGCCAAAGCCACCAAAGCCG
TTCAAGCGCAAAGCCGATGAAGGCTTTGGCGAAGCTCGAAGCATCGCTCCGCGCATC
TGGACAGCGAGTTTTCTTTGAGTTTTACCATCCCGACCATCTGCCAATCCTTTGTTAA
45 AGCTAGAACACGCAGATTTGGGTTACGAAGGCAAACTGTTTTGCACGACATTACCCTGT
CGCTGGAAAGCGGCGCGCGCTATGGTTTATTGGGTGTCAACGGCAGCGGTAAATCTACCT
TTATCAAAGCTTTGCGAGGCACAATCGATTTACTCTCCGCGACATCGTCCGTTCCGAAA
AACTCAATATCGGCTATTTTGCCTAACCAACTCGATACCATCCGCTCCGACCAAAACC
CTGTTTGGCATATTTCAGCAGCTTTCTCCGAAGTACGCGAACAAGAAATCCGAAATTTCC
50 TCGGAGGCTTCAATTTTGTGCGGATATGGCGTTGCGAAGAACCGAACCATTTCGGCGG
GAGAAAAAGCCGACTCGCTCTTGCCATGATTATCTGGCAAAAGCCGAACCTGCTGCTGC
TTGACGAGCCGACCAACCAATTTGGATTTGGATATGCGCCACGCTTGACGCTCGCTCTGC
AAAGTTTCCAAGGCGCTTAATCGTGTATCGCACGATCGCAGCCTGCTTGAAGCCACGA
CCGACAGCTTCTCCTGATCGATAAAGGCCGTCTGAAGAACTTCGACGGCGATTTGAACG
55 ACTACCGCAATGGCGTTTGGCACAGGAAAACGCCGCCGTCGCGCCGCGCAGCATCCGCAC
AAAGCCAAAGCCGCAAAGACACCAAGCGCATCGAAGCGCAATCCGTACGAAAAAGCCC
GACGCGCAAGCCGATACAGCAGAAAATAGACCGTGCCGAAAAAGAAATGGCGCAGCTTT

CCGAAATTCAGACGGCATGTGAAGCATTTTTAGCACAGAAGAAGCTTACTTCGAGGAAA
ACAAAGAAAAATTGCAGGACACCTTATCCGAGCTGGCAAAAGTCAAAACACAACCTTGCCC
AAATCGAAGAGGTTTGGCTGGCTTGCCAAGAAGAATTGGAACAGATTGAAACTGAAATCG
5 AGAAACAGTTTGGCGAGCGATAAAGAAGCGCGGGCAGGGTGCTTATCTTTGCCTGCCAAT
AACGGTATAATTGGGCGCTTATCACCGCCTTTACCGGTATAAACATCAGACTTTTGGC
GCCTTGGGTCTCCTGTCCCTTTCCGGCGCGGGCGCAAGCCTCCGTATACCATTGCAAC
TCAAATGGCAAAAGCGTATATACATCAGCCCCAGCAGGATTGTGCGCCGATGCGGATTTA
CCTAAAAATCAGCAGCCATCAGGGAGGCGGATACCGCTGAAAATAAAAAACTCAGTTAA
10 GAAGCCAAAATACACATAGAAAGTAAAAAGAAAAACAAAAACCTGCCGGGAAAAAGAAC
AAGCAGGCTGCCAAAGCCCCGAAAGAAAATCAAAGCAACCAACCGAAAAGAAAAGCCCG
TAAACGCCAAGAAAGCATTACAAAAATACCAAAAAATCAAATGATTATCCGAAAATCA
AGCACATTATGAAATCAAACCTCCTCTTAATCCTAATCAACTTTTCCCTGATTTCAAGCC
CATTGGGTGCGAATGCGGCCAAAATCTACACCTGCACAATCAACGGAGAAACCGTTTACA
15 CCACCAAGCCGTCCAAAAGCTGCCACTCAACCGATTGCCCCAATCGGCAACTACAGCA
GCGAACGCTATATCCCGCCCCAAACGCCCGGAACCGGTATCATCACCGTCAAACGCGCGAC
AGGTTGTCAAATATAAAGCCCCGGTCAAACAGTATCCAAGCCGGCAAAATCCAATACGC
CGCCGCCGCAACAAGCACCTCAAACAACAGCAGACGCTCCATTCTCGAAACAGAATTGA
GCAACGAACGCAAGCATTGGTTGAAGCCCAAAAAATGTTATCACAAGCACGCTGGCAA
AGGGCGGCAACATCAACCATCAAGAAATAATGCATTACAAGCAATGTATTGGACAGGC
20 AGCAAAATATTCAAGCCCTGCAAGGGAACTGGGGCGTATGTAAAGCCGTGTTTTCAAT
CGACCGTTCCAAGGATTGACAGAAGAAATGATGAAAAAGCAGCGGCATATCCTGTGTG
CGCTGCCTGTATATTATATTGAAGGTCAACGTATTTCCCAATACCGGCTGGATGGAAGC
GTGCAAGGGATGCAGGGCATGTCGTTCACTACCTTCGGATACGCGGATGCTCCGGGCTA
TACATTACGCCGCTTGGCCATACTTTAATTTTCTACTTGGAAAGACCACAGGGACACG
25 TACAACTGTTTCCGATAGTTTCGCATAATGTATATTATGTTAAATTATATATTTGTGCAA
TAACTCCAAGGCATTAAAGCTGTTGTTTGTGCTTTGCCAGTTTGGGAGAAAGTTGTCCAT
ATGCGCCATAAAACGGGCGTTGCGATGGCGTTCGAGCAATGGGTCACTTCGTGGACGAC
GACGTATTAAGCGGTGCGGACACCCGAACCGCATCCCTAAATGTCTTGGTGGGAATTT
AGGGGATTTTGGGGAATTTTGCAAGGTCTCAAAACCGCTCGCCTTATAGCCTGTCTGT
30 GCTGCCATTTACAGCTCCAAAACCCATATTTTCAAGGTGGGCATTGACTTTGCTTTGCCA
CTTTTCCACTTCTCGGGCAAGCTCGGCCATCGGGCTGCGGTAGCGGTCTTCCAGCGTGTT
CAAGCGGCTGATAAGCTGCTGAATACTGTTTTCCAAGCGATTTTCGATTCCGGCTTTGTAA
ATCGGCAAGCCATTTGCTTGAACGGCAAGCTGCTTGATTTCGGCTTCGGAAAGTCGGCC
AAATTGTTTGAATACGGCAAGGTTCAAGGCTTCGATTTGGGTTTTGACTGCGTCTTTTCGC
35 GGCTTTTTCTGCGTCATCAGTGTTTGGGTGGTTTGTAACAGCCGTTTCGCTTCTTC
TATGCCGCTTTCTTCAATGCGGTTTTTCAAGTTTGGCGGAAAGTTTGCCTTTTGCATC
CAATACGTCGTTGACGCAACCTCTTCGCCGCGTGTCTTCTATGTGGTTTCCAATTC
TTGGCTTAGGCGTTCCAGCTCGCTTTGTTTTCTTCCAGCTTGGCGATGCCGTCTGAAAA
GTAGCGGCGGGCAACAGCTCGGGGCGATGACTTCGCTGCGGTATTTTTTGTGATGCG
40 CTTGGTTTTGGCTTTGCCTTTTTGTGCGTTTCGGTTTCCTCAAAGACGACGGTCAGGTT
CGCGGCTTCATCGCTTTCTTTGGTGATTTCGGCCAGGTTTTTAACCGCCTTCCAGCCATC
TTGGGCGATGAGATAAACATCGTCTTGCAGGGTTTCCGCCAGTAGTCCGTCAGGATTTG
GTAGAAATCGTATTCTTCAATCAGGCTGCCGGTTTGAACGCGTCCAGCAGGCTTTCCGT
CCATTTCCGGATAAGCCTGCCCGTTGGATGGCGGCAAGGTCGTTTTGAGTGTGCCACGC
45 GGCAAACTTTGCTAGGTGTCCGGCTTTGAAGGCGGCGTAATCGGGGTGCGCAATATATG
GGCTTTGATTTGGCTGCTTTTCGATTTTATAGTGGATTAAATTTGGGGCTGTACTAGATTA
GCCCTAAATTCCACACCAATCCCGCAGGATTTTAAGCTGTTGAGAGTGGGAAAGATTTGC
AATCGATTCCGTGTATAGTGGTAAAGTGGCCATCGTGTTCGGCAAAACAACTCGTTTTTC
ATACGGCCTAAACTTTGCCAATAGGCTTCCAATGCGTCCATATCGTGCGCAGGTATGCCG
50 CCATAAGATAGATAGGCGGCGAGATTTGCAAGTCTTCGACTTCTCCGCTGTGATATA
CGAGGAGATTAAAGTTGTAATCTTGTGCTGCGATTTCGCTTAAATGCACCATACGGCT
GTAACGAGGTTTGTGAAAGTGTGATGATTTTGTGAATGTCTTGCTCACGACAGCGTTT
TTGTTGCCGTCTTAATGAAGCCGCGCGATGCGTCAATCATAAACACGCTGCCGCGCTG
ATACTTGGTTTGTTCCTCTTCGGCAAATTGGGCGGTTTGGGCGTGTCTTTGTGATG
55 ACGATGATGACGCGAGGAATGCCCGTGCCGTAACAGGTTGGCAGGCAGCCCGATAATG
CCTTTAATAAGGTCAAGGTTAAGCAATCCGTGCGAATACGCGCTTCGGCATTGCCGCGA
AACAGCACACCGTGCGGAAGAATAATCGCACCTTTGCCGCTTGGTTTTAGGCTTTTGAGC

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AGATGCAGCAAAAAGGCGTAATCGCCGTTTTTTTCGGGCGGGATAAGGCGGATTGGCAAC
GGCAAAATCGAAGGTCTTAAGCCCGTCGTTTTTCATCACGGAAAGACGAATCGGACAAGTG
TTCCCGTGTGATTTTCGGCGGTTTCGTTGTTGTGCAAAATCATATTCATACGG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 60>:

gnm_60

CTGAGCGCGGAAATGGCTTTCAGACGnCATTTGCGCTCAATAATAATATCCCGCGnTCAG
AATACACGGTTTGATGCGCCGGTTGCTTTGTGCGGACTACCGGAATGCGATTAATCCA
ACACGCCGCCAACCACGCAAAThCGGCGGCTTCCACCCATTGCGGATCGAGGTTTCAGGTC
10 GCGGTTGCTGTGCAGGGAACGCGTGTGCCGAAACATTCTGCCAAATCCGCCATTAAAC
AGGATTGCGGATGCCGCCGTGCGAAATGTACATTTGACGGGCATCTGCCGCTGCGTGTGA
GACGGCGTCGCAACGGTTTTCGCGGTAACGCGGAAAGCGTCCGCAATACGTCGTATCG
GTTTTCGCCGCCGTCAAGGTAGGTTTCGAGCCAATTTATGGCAAACAGTTCGCGCCCCGT
GCTTTTAGGGTGGCGTTGTGCGAAATACGGGTGGGCGAGCAGCCTGTGAGCAGTTGCGG
15 CAATATGTTGCCTTGTGCCGACTTTCACCGTTTTTGTGCGTAAGGAAGCTGC

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 61>:

gnm_61

CCCGTATCGGATGATTTTTGGGGGAATGGTTGCGCTCATGTTTTTTGATAACGGGAAACC
20 CGTTTTTCTCTGTAGAAAGGTAAGCGTTTACTTTAAGTAATTGACTGTTGCGGGTCAAGT
CTAATTTTAAAAATAATCCGGTTTTTCTTACAACTGCCCCATAACGCTTACTGTACC
TTAATCTGATGGTTTTTCGATAATAATTATCATTAACAATGCAATGCCGGTTCGTTTGCTTG
TGAACATTCAGATGCCGACTCTGACGGCATTCAGACAGCATCTGAAAACAATAACGGCA
CAAGGATGGGGTACAATCGCCCTATGGAAAAAACACCCTATCCGCCCCGCGCACCATCCC
25 CTTGGCTGCCGCTTCTGCTGGCAATTGCCATTTTTATGCAGATGTTGGATGCGACCATTT
TAAATACCGCACTGCCTGAAATTGCCGCCGACCTGAATGAGTCGCCTCTGGATATGCAAC
TGGCAGTTATTTTCTACACGCTGACGGTTGCCCTGCTGATTCCTTTGAGCGGTTATTTGG
CGGACAGGTTTCGGAACGAAAAAGTCTTTTTCGGTTTCGATTGCCGTTTTTATGCTCGGAT
CGGCATTGTGCGCCGCATCGGGTTCGCTGTTTGAATTGACGCTTCCCGTGTCTGTTTCAGG
30 GCATCGCGGTTTCGATGCTGGTTCCGATACCGCGTCTGACCATCTTGCGTGTGTACGACA
AGTCCAAAGCTGCTCAATGCCATCAATTATGCGGTTATGCCCGCATTAATCGGGCCGGTTT
TAGGGCCTTTGGCGGGCGGTTATTTGGTCAATACGCTTCGTGGCACTGGATTTTCTGCTG
TCAACCTGCCCATCGGTCTGCTGGGTTTCATATTGGGACGCAACATCATGCCCGATATTA
AAGGCAGTAATATCTCTTTAGACTTCAAAGGTTATCTGATTTTTTCTGCCGCCGCGTGCC
35 TCTTGTTACTTTTCGGCAGAAAGCCTGTGCGACGCGCTGCCTCCGTATTTTGCACGTGTTGC
CGCTGTGCGCGGACTGCTGTTTGACGCCGTTATTTCCGACATATGAAAACCGCGTCCA
AACCAGTTTATTTCCGCCGACCTGTTTCTGATACGCACTTTCCGTCTGGGACTGGCGGGCA
ATCTGTTTCAGCCGCTCTCGGCATCAGCTCGATTCTTTCTGATGCCCTGATGTTTCAAA
TCGCTTTTCGGCTTCGGCGCAAGCCTGTGCGGTTGGCTGGTCGCACCCGTCGCCCTGTCTT
40 CGTGCTGGTCAAACCGCTGATTGCACCGCTCATGAAACGTTTCGGCTACCGCACGGTAC
TGCTTTGGAACACCAAGCTGCTTGCCGCCCTTCATCATGCTGCTCGCCCTGCCTGACGGAA
ACTCGCCGCTGTGGATTTGGGTTTTCTCTCGCTGGCGATCGGCGCGTGCAACTCCCTAC
AGTTTTCTGCCATGAACACACTGACCTCGCCGATTTCGCCCGCAACAAACAGGCAGCG
GCAACAGCCTGATGGCGGTCAACCAACAGCTTGCCATCAGCATGGGCATTGTTGCGCGG
45 CATTAATCCTTAAAACTGGACATTTCTGATACCGGCTTCTTCAGGTCTGCATTCGCCCT
TCCGTATGACCCTGCTCAGCATCGGCGGCATCACCTTGCATCATCGCTGGTTTTTCAAA
GGTGACGTTTTAGACGGCACCAACCTGACACGGAACACACCGTCTGAAGCGGTCCAC
ACGCAAAACTTTTACCCGTTTCAACGTTTGATTATGATACCGCACTTCCATGCGGCCA
ACCCCAAAACACAGGCAATGCCGCTGTAAACCATATCCCTGATGAAAACACGCAGCCTAA
50 TTTCCCTTTTATGCCTCCTTCTCTGTTTCATGTTCTTCATGGTTGCCCCCACTGGAAGAAC

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GGACGGAAAGCCGTCATTTCAATACTTCCAAACCCGTCGGCCTGGACAACATCCTGCAAA
TCCGGCACACCCCTCATACCAACGGGCTATCCGATATCTATCTGTTGAACGACCCCCACG
AAGCCTTTGCCGCCCGCGCCCTTATCGAATCTGCCGAACACAGCCTCGATTGCAAT
5 ACTACATCTGGCGCAACGACATTTCCGGCAGGCTGCTGTTCAACCTCGTGACCTTGCCG
CAGAACGCGGTGTGCGGTACGCTGCTGTTGGACGACAACAACACGCGCGGATTGGACG
ACCTCCTGCTTGCCCTCGACAGCCATCCCAATATCGAAGTGCCTGTTCAACCCCTCG
TCTTACGAAAATGGCGCGCACTCGGCTACCTGACCGACTTCCCCCGCTCAACCGCCGCA
TGCACAACAAATCCTTTACCGCCGACAACCGCGCCACCATACTCGGCGGACGCAATATCG
10 GCGACGAATACTTCAAAGTCGGTGAGGACACCGTTTTCGCCGATTGACATCCTCGCCA
CCGGCAGCGTCTCGGCGAAGTATCGCACGACTTCGACCGCTACTGGGCAAGCCATTCCG
CCCACAACGCCACGCGCATCATCCGACGCGGACATCGGCAAGGGTCTTCAAGCACTCG
GATAACGACGAAACGTCCAGACACGCGCTCCTGCGCTACCGCGAAACCGTCGAACAGT
CGCCCTCTACCAAAAATACAGACAGGATGCATCGACTGGCAGAGCGTCCGAACCCGCC
15 TCATCAGCGACGACCTTGCAAAAGGACTCGACCGCGACCGCGCAAAACCGCGATTGCGG
GGCGGCTGCAAGACGCGCTCAAACAGCCCGAAAAAAGCGTCTATCTGGTTTACCCTATT
TCGTTCCCAAAAATCCGGCACAGACGCACTGGCAAACTGGTGACGAGCGGCATAGACG
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15 CCTGTGCCGTTTTCGCGGGCGGCTAGCAAATCATGACCGGCGAGTGCTTTGGGAATGGCG
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25 ACTTTGCCGAGATTTTGGCGCAGGTTGGGCGGTGTGCGAAATGCTGACCAGCGACCCGAC
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35 GGCAGAATAAGCTTTCAGCATATTGGCCAAATCGCCGACAAATGCGGCAGCTTCGCGCAA
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TAAGTCTTTCTATTATCCCTTTTCGCTACCGTTTCGGATTATTTACTGCTTGCTCATTGTG
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5 TAGACGCGCATATTGCCCTGAAATGTTGCAGTGCAACCCGATCAAATTTCTCTAAACGGGT
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10 ATTATTTTTTACTTGAATTGTTGACAAAACCTCTGTACCAATTGCTCTACTTGTGGTGT
AAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 62>:

gnm_62

15 GGATTAACAAAAATCAGGACAAGGCGACGAAGCCGACAGTACAGATAGTACGGAACC
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20 CTTCTCTTCTCTTCTTCTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT
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30 TCTTGGTGTATCGCCGGTGTGGTTCGACATCACGCCCAAGCTGACCTTGGACACCGG
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40 GATTCCCACTTCCGTGGGAATGACGTGGTGCAGGTTTCCGTATGGATGGATTTCGTCATT
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 15 CCGACATAGCCGCGTACC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 63>:

gnm_63

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 20 GCCCTACAAACCCGAAGGAGTAGAAATGAACTGTCCGAACGTTCAACCCCGACGAATT
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 45 AACCGCAGTATGATTTTATTGGGCGAGTGTACTATGAACTCAACGCGACTGCGGAAATG
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 GCCGGCTACCGCAATTGCTCGCCGATATGGAACACAGCCTGAAAGCCATCACCGGCTTT
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 5 CTGCCGATTACTTGGATGTACCTGACCATGATGGGCAACAAGGCATGGAACAGGCAACG
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 20 AAGGTGCTCAAGCACCAAGTGAATCGGTTCCGTACTATTTGTACTGTCTACGGCTTCGTC
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 25 TTGATACGCGGTGCCCAATCGTCTTTTTTGCCATGCGCGGAATACCGGAATCGAACCG
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 CCGCCGCTTTTGTTCGCCATGTAAAGTAATCGCCCGTTTAAGTTCCGTGATCGGTGAGTCT
 30 GCCGCACCGCCTTTTGCAGGCATGGCGTTAAAGCCGTTGAGCGCGTGTGGAACAAGGTA
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 GGCACATTGCTGTCCGCGCGGTGGCATTGGATACAGATTTTGCCGAAATCTGTTCCGCT
 TGGCGTTCCGCGACGGGGATGCCGTGCGCCATCGTCAATTGTCCGACAGGCTGGATACGG
 GTCTGCGTTGCTGCTTCCGTAGTGGCATCGACATCGCCGAACGAGCCGCTGCCCGCCAGC
 35 TTAATCAGGAAATAAAGGACTGCAATAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 64>:

gnm_64

TGTGTTGTTTGACCCGTTTGCTGCGGATAATCGTGGGTAATGCGTTCCGGCGGCATAAGC
 40 TAAATCCGCCTGCACATAATACGGGCTGCGGCTGCCGTCTTCACTTGCCGCCTGCGCTGC
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 45 TAAGGTGCTGAAGCACCGAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGT
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 50 TCCGTGCGGATGGATTTCGTCAATCCCGCGAGCGGGAATCTAGACCTTAGAACAACAGC
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 GTTCAGTTGCTACGGTTACTGTGAGGTTTCGTTTATGTTGGAATTTCCGGAAACTTATGA
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45 GTTGCAAATCATCGCGCAGGTTCAATTGCTGACATTCTTATAAACGTTGTTTCATATAGGC
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50 CAAAGCCTTGGTCATGAGCAGGTAAGTGTGGCGTCGAACCGTCCGACGAATTTGTCGCC
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CGTAACCACCGGAAAATCCGCGCCGTATTCCCTGCCCGTTTCAGGATTAATCGACAAAGG
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5 CGAATGCCGTGCCCGCAACATGATGGTTGCCCGACAGCGCGTGGCAGATTAAAACCGCATT
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10 CCGCCGCACACGAATCATACTTTTTCAGACGACCTCCACCGCTTCCCGACATGATAGGCA
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15 CGTTGCCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATT
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20 TTGACGTTGCGCTGTTTGCCAGTATAGACGGGATGGGATGCGGAAGAAGTATCCAGCGAA
AACAGCGGATATTCTTTGCCGTCTGTCCAAACCATCGTTTTTCCGTGTGTTTCGGCACAG
GAGCGGATTAACCAGCCTTCATTGGCGCTGCTATCGAAAAAATTGACGGTTCGGTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 65>:

25 **gum_65**

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25 ATGCCGCCATACGCCGCTGCGGCGCAAGATAACCTTTGCCAATTTGCAGAAATTACGT
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35 CAAATCCGCTTCTTCTTATTTCGGGCAAACCACGCTTAAGCCGCCGACGCGCTCGCCGTA
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5 GCGGAAGAGTTGGTCGGGGTGGACTTCAAAGCTGTTGAGCACTTTGCCGCGCAGGGCAGG
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 45 ATCGTTCTCTTTAGCTAAGGCGAGGCAACGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 66>:

gnm_66

50 GGGTTTATGAAGCGGCTTGCCGGCAACAGATCATAAGCAAACATACCGCTACTTTATG
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TTTGTTCCATTGAGCTTGAATGGCGGTTGCGTAGAAAACTGCTGTTTGCCTAAAAATAAA
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5 CCAGCCTGCAGAGCGGCGGCGTTGTACTTCGATTTCGGCATCGTCGATGTATTTATAGGT
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20 GCCCGAAACGATATTGGTCAACATCACGCCGCGAGAAACGCGGTAGCGGTGTTGGAGGAA
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25 AAAGACCCGATCAACACCAAAGGCGCGCGGCTTTCCACCCAAATCTCGCTGGCGGGGCGT
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35 ACCGGCGGCTTCGTCGGCGCACGCAACTTCGACGAAACCATCTTCCGCACCAACCTCGAA
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40 TCCTGCCAAGGCAGAGGCGCTGAAAACGCCGCAACCGTATGCTACGAAATCCAGCGC
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55 GAAGGGCGGTATCGGCGTACGCAATTCGTGTGCCGCGTCCGGCGACAAACCGCTGACGGT
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 35 CAAACCCCGCCAGCAACGCCCAACAGCGGCACCAAGATTAATGCGATGATGGGCGACA
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 40 GATACGGAACAACCGTAAATCGGTATCGGGACGGCGGGGGCATTCATCCCGTGCGC
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 TTTATAGTGGATGAACAAAATCAGGACAAGGCGGCGAGCCGAGACAGTACAAATAGTA
 CGGAACCGGATTCATTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCG
 AGGCAACGCGCTACTGTTTGTAAACCGCTATAAACACGCCGGTCAATTTGCCGCGCA
 45 TTATCCGGCAAAAGGGAAACCTTGAGGCTGCCAGCCCAATAAAAAAGCGCAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 67>:

gum_67

TAACCGGATTGAAATGTCCCCTGCCCATTTTGTGCGCAAAAAGGCTTTGGCGCAAATGC
 50 AGCAGGGCGACGTGTTGACCGTTCTGGCAACCGACGGCGmGCACCGGGGGATTTGAGG
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 CGCTGGTCTGTCACACAAATAAATGCCGTCTGAAATGCGGATGTCCCGCCGACGGCGT
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5 GTCGGCATTTCGGGCGTATCGCCGCCGATTGTTCGGAATGGCTGTTAACCGCCTTGCC
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10 AGCCAAAACCTAAAAAGGAACAACCATGCAAACCTGACCATTATCCGCCCCGACGATAT
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15 CGGCATCGTCGCCCTCAAACCTTACCTGCGGCGCGACCAATTCGATTCGGGCGT
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20 CACCGTTACCCCGCAACACCTCCTGCTCAACCGCAACGACCTCTTGGTCGGCGGCGTGCG
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25 CTCAAAAACGGCGCAAGGTTCTACGGCATTCTGAAAATACCGACACGATCACCTCGT
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GGGAAGCGTTGGACGAGTTCCGCAAAGGCCTGATACGCTTCGCGGTTGGCTTTCCGGTTCG
CGGTCCGACCACTGTTGCGAGGCCAGCTTGTTCAAGAAAGATTGATCTTCGTTGAACAGT
55 ACCAAACCGCGCAGGTATAGCGCGTAGTCCATATTCGGGTGTTGAGGGTGAAGGCGGCGG
AAGCGGTCAATGGCGGCCAGCGCCTTATCCTTCTCATCATCTTTATAGTAGGCGTATGCC
GTATCCAGTTGGGATTGCTGGGCATGGCGGCTGGTAGGGAAGCGCGATTCCAAGATTTCCG

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TATAATTTGACAGCTCGCGTATAATTGCTGCTGTTAGCTCGTCCTGGGCTTCGGCATAG
 AGTTTTTCCACACTCCAGTCTTGGGTAATCTGGGCATCTTTATCTACCGTACCTTGAGTG
 GCACAGGCACTCAGTGCCAAACCTAATGAAACCGTTAAAAGAAATTTTTTCATGCAGAAT
 ACTTCCTTTGATAATGAATCCGATTATAGCGACGATTAGACTTTGCGTCAGCTTCCGAA
 5 ACTGAAACCGTATCGGTCTGACCGTTCCGCTCGAGCTTGACGGCGGGCGGTGGATGCG
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 GGCAGCGGTTATTGTAAACGATAAACCTTCGCAACCCAAAGACAAAATGATAGGCGGCGAG
 CAAATTTGTGTAACCGTCCGTCCGAGTGAGGAAAATCTGGCGTTTGTTCAGAGCCTATG
 GCTTTGGATATTGTTTACGAAGACGATACCGTCATCGTCGTCAACAAACCGGCCGACTG
 10 GTGGTGCATCCGGCGGGCGGCAACTGGACGGGGACGCTGCTCAACGGCCTGTTGGCGCAC
 TGTCCTCGAATTGAGCCAAGTACCGCGCGGGCATCGTACACCGTTTGGACAGGAAACC
 AGCGGGCTGATGGTGGTTGCCAAAACCTGCGGGCGCAAAATTCCTCGTGAGGCAGCTT
 CAAGAGCGCACGGTCAAACGCATCTACCGCGCGTCCGCAACGGCATCGTCCCCTTCGAC
 GGTAAAATCGAAACCCAAATCGGACGCGATCCGCACAAACCGCTGAAAATGGCAGTCGTC
 15 AAATTCGGCGGCAACCCAGCCGTTACCCACGTCAAAGTGTGGAACGCTATCTTACCCAC
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 GAGGCCAACCATCCGCTTGCCGCGGACCCGGTTTACGGCAACCCGCGCATCCGTGCGGC
 GACACGGTGAAGAAGCCGTTAAAAGTTTGGGTGCGCGTCAGGCGTTGCACGCCTACCGC
 TTGAGTTTACCCATCCGGAAGCGGCGAAACCGTTTCGTTTGAAGCACCGATTCCAAAC
 20 GACATATATCATTGTTATCCGTCCTCCGTCTTGAAGCCGGTTTGGATTCTGCTTTGAGC
 AATGAAGAAGAAATGGCAGGACAAATTCGGCGCGGACGACGATGATTGGAACGAAGAC
 GACTATGATGTGGAAGTGGTTTATGTAAGGGAGTGAGGCGGCTTGAAAGCGGGGCGAAC
 GCAGGCAGCCGAATCGGAGCAGCCGGGCAATCGTCCCCGCGATTTCAAACAAAGGCCGT
 CTGAAGGGACCGGGCAGAAACCGCCGTTTGTGTTGCCCGTTTACAGCGGCATTATGATA
 25 AAAGGCGTTTAGGGTTTTTATGTTTACCGGCTTTGGCCGCCCAATAAGTTGCCAGCAGC
 GAGCCGGAGATATTGTGCCACACGCTGAACAATGCGCCCGGAACGGCAACGACCGGCGCG
 GCGGCAAGTGTGCGGCGGCAAGCGCGGCGGCCAGGCCGAGTTTGCATACCGACTTCG
 ATGGTCAGCGTTTTTTGTGCATCATAAGGCAGGCCGGTCCATTTGGCGGCAAAGAAGCCG
 AGCAGGTAGCCGATGCCGTTGTGGAGTACGACAACCGCAAAAATCAGCAGGCCGCTTTCC
 30 ATAATCTTGCTTTGCTTGCCCCAACAAACCGCGCGGATAATCAGCACGATGGCGGCAACG
 GAAACCAGCGGCAGCGCATCGGTCAGCTTTTCGGTTTTACTGCCAAAACCTTATGGACA
 ATCAAACCCAAAACAATGGGGAGCAAAACCATTTTACGATGGACATCAACATACCGGCC
 GCTTGGATTTCAGCATTTTCGCCGCAAGCATCAGGAAGATGGCGGGAGTCAGCAATGGG
 GAAATCAGGGTGGAACAGACGTAACGGCAACCGACAAAGCCACATTGCCACGCGCCAGA
 35 TAGGTCATCACATTGGAAGCCGTACCGCCCGGCGAGCAGCCGACCAAAATCACGCCGACC
 GCGATTTTCGGCAGGCAGGTTTCAACAGTTTGGACAGCAGCCAGGCGGTTGCCGGCATAATG
 GCGAATTGTGCGATTACGCCGATGATGACGACTTTGGGATGTTTGAACAAAATATCGAAG
 TCGGAAGGTTTGAGCGTCAAACCCATACCGAACATAATAATGCCCAACAGCCAAGGAATA
 TAAGGCCCGCCCATTTGAAGGTGTCGGGCGGAAAAAGCGGCGGGCGCAAGAGCGCG
 40 GCCCAGAGGGAAAATGTTTTCTCGATAAAGCTGCTGATTTTACTGAGGATATTCATAAA
 TAATGCGTTGCGTGTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 68>:

GNMBA22F gnm_68

45 ATGACGnCATAGGGnTTTCCGTTTTCCGATAAATTACCACAACCCAAAATCCCGTCATT
 CCCGCGAAAGGATATATCCGGCTCGTTCGGTTTCAGTTTTTTAGGTTTCAGGCAACTTCT
 GAnTCGTCATTCCCACGCAGGTGGGAATCTAGGTCTnTCCGCACGGGAATTATGCCGnG
 TCATTTCCCGCGAAAGGGGATGCCAGATTCTTCGGTACAGAACTTATCGGATAAAACGGT
 TTTCTTTAGATTCTACGTCCTAGATTCCCGCTACGCGGGAATGACGATGGAAAGATTGTT
 50 TTGTGCTTCGGATAAAATTTTCGAGTTTTTAAATAACnGATTCCCGCTGCTCGGGAATGA
 CGGCATAGGTTTTTTTGTGTTTTCCGATAAATTACCACAACCCAAAATCCCGTCATTCCCG
 CGACGGCGGGAGATCCAGTCCTTTAACTCCAGCCATTCCCGATAAATTCCTGTTACTTT
 TCGTTTTCTAGATTCCCGATTTTCGnGGGAATGGATGGATn

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 69>:

gnm_69

```
5 CATGTTTGGATATCCATGCTGCTCCCTATGTACATAATAAAAAAATGGCCCCGTGGCCA
TTTTTCGTCAAAGTTGAAAAATCGGCGTGATTATAACCGCTTTTGGCGAGAAATGAAAGT
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GAAATCGTGAATATTGTTGACAAAACAAATGTATCTATTTGTGCGGTGCATGATTTTAT
GTTTGTAAATCAATATATTGATATTATTTCCGTGTTGCGGCGGCATGGAATCGGCGGGA
10 GGACAGGTATTTCCATCCTTGACAAAAGCCTGCTGCAAGCCTAAAATCGGGCGGGTTAT
TGTTTCAAGATCAAGGCTGCATCATGTCTCTTATCCGATTTACAATTTTCCGCCGCCCC
TGCGGTATTGCCCCGAAGCCGTGTTGGAAACGGCGCGGCAGGAAATGTTGGACTACAACGG
TACGGGTTTTCTGTGATGGCAATGAGCCACCGTTCGGAATGTTTTTGAGCATCCTGCA
TCATGCGGAACAGGATTTGAGGCAGCTTTTGAAAGTGCCTGACAACATAAGATATTGTT
TCTGCAGGGCGGAGCAACAACCAATTTAATATGGCAGCCATGAATCTGGCACACGGTTT
15 CCGCACTGCCGACGCGGTGGTAACGGGCAACTGGAGCCGTATCGCTTATGAACAGATGAG
CCGTTTGACCGATACGGAAATCCGTTTGGCGGCGCATGGCGGCGAGCAGTTCGACTATCT
CGACCTGCCGCCCTGTGGAAACGTGGGATGTTGCACCCGATTTCGGCGTTTGTCATTTTGC
CGTCAATGAACCGTCAACGGGCTGCAATACCGTGAAGTGCCGTGCCTTTCAGAAGGCAT
GGCGCTTGACCGCGGTTTTGTGCTGGAAGCCGAATTGCAGGGCTTGTCCTGCTTAAGGG
20 CTACGGACTGATTTACGCAGGCGCACAGAAAAACATCGGGCCGCGAGGAGTTACGGTGGT
GATTGTGCGTGAGGATTTGCTCGAGCGTTGTCCGAACGATATCCCGATGTGTTCAACTA
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CAATCGGCTGAAGGCGCAAACCTTGATGAGACGATAGACGGCAGCGATGGTTTTATAT
25 CAACCGTATCCGTCCGAATGCGCGTTCTAAAATGAATGTCGTGTTCCAAACGGGGGATGA
GGAGCTTGACCGCGGTTTTGTGCTGGAAGCCGAATTGCAGGGCTTGTCCTGCTTAAGGG
CTATAAACCGTCGGCGGTATGCGTGCCAGCATTATAATGCGATGCCGCTGAAGGCGT
GCGGGCTTTGGCAGATTTTATGCGCGATTTCCAACGGCGTTACGGTTGATGTCCCGATGT
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30 GTGGTAAGATTGTGCTGCCGGCGGCTATCCGTCCCTTTCAATCCGAGCGTGATGCTGTTT
GTGCCGACTGTCCCGTCGGCGGCGCGGCTGGGTTTTTCCAATATGAAATGCTTTGCCCG
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GCCGGACGTTTGAATGGCGGGCGGAACCCCCGCACAGCCGCGTTTTCTTGCCCTGCTT
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35 CCTTTTCCAACCCTTATCCGACACATTCCAAATGATAAAACCGAACCTGAGGCCGAAGCT
CGGCTCTTCCGCGCTGATTGCCCTCCTTTCCCTGTATTCCTCGCTGGTATTGAATTACGC
CTTTTTTGCCAAAGTTGTGAGCTTCATCCTTTTAAACGGCACCGGGCGGATATCTTCCT
CTATACGATGCCGGTGGTGTGTTTTTTTTAAGTAATTTTCGTTTTTACGTCATTGCCCT
GCCTTTCGTGCATAAGGTATTGATTCGTTGATATTGGTTATCAGTGCGGCGGTGTCTTA
40 CCAAGAAATATTTTCAATATCTATTTCAACAAGTCGATGTTGAATAATGTCTTGCAAC
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GGAGCTTTTGACGCGCCTTGCTGCTGCCGCCGTTTCCTTTTTGTGCGCGTTGGGCATCGC
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45 GATTGTGCCGTCTAATTTTCATCGGCGCGGGCGGTGTCGAAATACAAAGATTGGAAGCGTTC
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50 CTTGACCGCACGGATTATGACGAAATCAAAGCCGAACACCAAGACAACCTGCTGGACAT
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CGGCGAGTGCCCTCGACAATATCCTGCTGACTAAGTTCGACGAAGTCTCAACAAAAACGA
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CTATACCGAAGCCGAACGCAAATTCACGCCGACCTGCGACACCAACGAAATCAACAAATG
CACCCGCGCCACGCTGGTCAACACTTACGACAATACGGTTTTGTATGTGGACCAGTTTAT
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5 TTCCGACCACGGCGAAAGTTTGGGCGAAAACGGGATGTACCTGCACGCCGCGCCTTACGC
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10 TCGGAAGGAAATGGATATATTGGCAGCCTGCCGCCGTCCGCGCTGATGCCGGATATGCCG
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20 GTTTGTACGCCATTGGTAAACGGAATCTCAAGACAATGCCGTCTGAAAGGCTTTTCAGAC
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30 CAATGAGACTTCGTGGGTTTTGAAGCGGGTGTTCCTCAAGCGTCCCAAGTTGTGGTAGCG
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25 AAGCCCCAAGCTGCTGATGCTGTTGCTTTCGTGATAGGCAGGTTTGCTACTCGGTCTCTC
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30 GCCCTGGTTTTCTTTCAACACTTTTGTGTTGACGGAATATTTATTGTTGCTCCATTTCT
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35 AGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGGTT
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40 ATAAGGACCGTCGGGCATCTGCAGCCGTATTCCCGCGCAGGCGGGAATCTGGAATTTCA
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50 CAAAGATTATCTGAAAGTCTGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGTTTCA
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55 GTAGGTTTCGTAGGAATGACGTGGTGCAGGTTTCCGTGCGGATGGATTGCTCATTCCCGCG
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5 CAGGTTTCCGTGCGGATGAATTCATCATTCCCGCGCAGGCGGGAATCTGGAATTTCAATG
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10 TGACAGCCAAGTGAAGGGGCTTTTTTATGTCAGTAGCAAATGTAATATTTTCTTGTTCC
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20 ATATTAGGGTTTGGCATCAGGACAGATGCAAATCGAAGGGCAATAAATTTACGATTTCG
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25 GGTTTTTTCGATAACAGTAACATGAGGCCGAAATCTGAAATGGTTGGAACGGCTTGGCGG
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30 TTCGATTACCGTAAAAAGTGGCTAATTTAACTTTTTCAGCATAAATTGAGATACGCAAAA
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35 TTAGAGGTTGAATTGGAAGAACTCGGAATTATCAAATTTAAGCAATCAGATAAATTTCGAT
CCGATAAAAGGCTTTTCGATCCACATCAGATGTGGAAAGTGAGAGGCAATATCAGCTT
TATCTCGACAGAATGTATGATCTTCATGCAAAATCAAATTAACCTAAAAAGGAAAAATTA
ATATGTTTAAATCAAATCAAATGTAACCTATCCCGCAACTTTTTTAGGAGCTAAAAAT
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40 GTAAGAATTTCTCAAAATTAGAGAACTCAAATACCCGTGCGAAGTTATGGTAACGGTTG
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45 GATTCCAGATATTTAGTTCTTCGTAATAATCGGAATAAAGAAAAACAGGCTCGGCGGGC
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50 AAAAGCAGCCTTGGCAGCCGGTATCTTCACACCGGCCATTGTTATGGCAGATACCTTTGA
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55 CCTTCCTCTACTGTTACCCAGGACGGAAAAATCATCAGGCCGGAAAGGGTGGGCGAAAA
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CTTCAGGCTTTTGATTAATTTTTTAAAGACATGGGCAAGGTTGGGATTGATTGATGGTT
ATTGATTTTTGGTTTCTTCTCGGTTCTTCTTGCTTGTCTGCTGCTTTGATATTTAA
TGACGTGTTTTAAATCAGGCTTCAAAACAACCTTTGAAAGGCAGAACATGAACAAAC
CGTTTTATCACGCAgGCGCAGTTGGCACTTTATAAATATCAGCCGTCAAGCAAGTATTATG
GTAACAATGGCATATACTTTTCGCTAGTGAGCTTTTGATTATTCAAAGTTAATAAAT

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TTATAATTCATGAAGAAATCCAATGTTTTTTAAATAGAAGGATTCTAATAATATTTGGA
AAATTTATTTTTCTGATGAGTCTGTyGCGTATATAAAAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 70>:

5 **gnm_70**

CAATGCGGATTTCGCAGCAGGAGTTGGAGGCGCTGCCGGGCATAGGCCCGGCGAAGGCGAA
GGCCATTGCGGAATACCGTGCGCAAAACGGTGCGTTCAAGTCTGTAGACGATTGACCAA
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10 GTAAAGGAAAGGGCATCGGCCGCCGTGCTGCTTTTTGTTTGAAGGGAAATGGCTAAA
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15 TAGCCTTTGGTATTGGGCGCAACAGACGCAAGGTACAGATTAGCGGTGTGCCGTAATCGT
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30 CAGACCGTCAAGAACCATTAACGGCATTGAGAATTTTGAATCAGGCAAAACGCGTCT
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ATTGCCTCTTGACACCTTATTCACCTGAGCTCAACCGATTGAGAAAAGTGTGGGCGAATAT
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45 AAGGTTTTTCATGCTTGGTAACGGTGTTTTTCTTATCGCCGATGATGGCTTTGCCTTTGC
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CCGCTGAAAATACTGGAAATATGTTCCGACGGCATTGTAATGCAGCAGTTCCCGAAAT
CCGCTATAATCGCGCCCCATCTGTTTCGCACCTGCAACGTTCCACAGATGCGACAATCG
GAAGGATTATCCGCGCAAAACAGCCGTTTTTCGTTTAAACACTTGAACAACTGTTT
45 TTCGTGGTATAAATCGCGTTTTACTATTTTAGAAGTTTGGAGACTGATTATGGCAGAGT
TTGCAAGTGACCGGCAAAACGCCGATGTCCGGCAACAACGTATCGCACGCCAACAACAA
AACCAGCGCGTTTTTTGCCCAACTTGCAATCACGTCGTTTTTGGGTAGAAAGTGAAAA
CCGCTGGGTTGCGCTGCGGTTTTCAACGCTGCACTGCGTACCATCGACAAAGTAGGCAT
TGATGTCGATTGGCTGATTGCGTGCTCGCGCGAAGCTTAATTTAAACACTATTTAAT
50 TAAGGATTACTGCAATGCGCGATAAAATCAAACCTGGAATCCAGTGCAGGTACTGGTCACT
TCTACACCACTACCAAAAACAAACGCACATGCCCCGGCAAATTGGAAATCAAAAAATTTG
ACCCAGTTGCCCGCAAAACAGTAGTGATAAAGAACTAACTGAAATAATTTAGTTTG
AAAGCAAGCCTCCGACTGCTCGGAGGCTTTGTTATTTTATCGTGTTTCCCTTCCGCTT
GAAACATCTGCCGATGCGAATCTGCTGCAACCGTCTGCCAAGGATATGAAAACCGCAA
55 AACGGTTCATAACACAAAAATGCCGCTGAAACGTTTACAGCGGCATTTCCGCGAGTTTC
AACCGGTGAGTTGTTTGGTGATCAGTTTCTTACGCGGTGGGAAATTGTTGCTGGCAGCA
ATACCAAGCCGCGCAACAGTTTTGCGGGTGCAGTCTCATTTGTAACAGTTTCAGCATCA

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TATTGGTTCCGTGATAAAGCGGATGGGCGTGCAGCATATGTTTGCTGCTGATTTTCCCA
ATAATGAAGATGCACCGATGTCTTGACCGCGCTGTTGCGCTTCGAGTATCAGTTTGCCA
AAATATCTGCGCTGGAAAGCCCCAAGTTGAAACCGTGTGCTGTAACGGGGTGCATACCGA
CGGCGGCATCGCCAATCAGCGCGCTGCGTTTGCCGTAGAAACGTTTGGAATCATGCCGA
5 CAAGGGGGTAATGGTGGATGCTGCTGACCAATTCCATATCGCCGAGCCTGCCCTTGAGCT
GTTCTTTTACGCTTGCCGCCAATTCTTCGGGCGAAAGGTTTGAACGCTGTTGATTTAT
CGGTATCGACGGTAATGACGGTATTGGTCAGGTGCTCTTCCAGCGGCAGCAGTGCGATGG
TGCGTCCGTAATGGAAGCATTTCGTAAGCGGTATGTTGGTTGGAAAGGTATGTTTCATAC
GGCAGACGAACATGGTTCGGCTGTAATCGTGCATATCGGAGGAGATACCGAGTTGTCGAC
10 GGTGTTTGCAGAAAGCGGCTGTCTGCCGCCAAAAGCAGGCGTGCAGTCAGTATTTTGCCGT
TTTCCAAAATGACTTGTGCTTCGTTGTCAGATGTTTGGACTTCTTTGACAACCGTATCGG
TCAGAATGCTGACATTGTGAGTTGTGATACGACTTCATAGGCGGCGCGGCGGATATTGT
GGTTGGAAATCAGATAGCCCCAACAGTCGGCAGGTTCCGCGCGCGCTTCAGTCGGTTGGG
GAAAGTGGAGCTGGTAGTCGGAACGTCGTTTCAGCACTTTGGCATCGCGCAAAGGGTAGA
15 TTTGCTTTTCGGGAATTTTGTCCACATACCCAAACGCTGCATGATTTCCGCGGAAAAAT
GGGTCAGGGCGATTTCCGCTCCGTCATATGGAGGATTTTGCAACAGTCAGTGGGCTGC
GTTTCGATCAGGGTAACTTTCAAACCGCTGCCGGCAAGTTCCGCTGCAAACTTAAACCCG
CCGGGCTGCGCCGACGACGAGGATGTCGCTGTGTAAACTCATAAAATATCCTTTGCATA
GACGGATGCCGATGATTTAGATGGTATTTG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 71>:

gum_71

CCGGTTCGAGTAGTCAGTTAATAGTTTCTCCTCTATTTCTCCTTTGTAGACTTGGCACAC
ATTCAACTGGATGTGTGCATTTTTTTATCTGAAGCAACAAGCCTCTGTGCGTGATGTTGT
25 TATGTTTCATTTAGGTGTCAAACCGCATATCCGGTCTGAAATATTCAATCCAAATCCAAA
ACCGGATTTTCTTTGACCTCCTCCATCACAACATAACTCCTACTCTCCGAAGCGGCAGGC
AGTTGCAATAGGATATTGCCTAGCATATCCCAGTAGGCAGACATATCGGGCAAACGTA
TTAATCAGATAGTCGTATTCGCCCGACACCAAGTGGCATTCCATAATTTGCGGAATTTTC
AGCACTTCTTTTTTGAAATCTTCGAAAATATTGCCCGATTGGATTGCAGCTTCAGCTCG
30 AAAAAACCAATAAAGGTTTGCCCAACAGATGGGGATTGAGATGGGCGTGATAACCGGAA
ATATAATGTTCCCGCTCCAAACGGCGCACCCCTCTCTGTAACGGGCGTGGTGACAAGCCT
ACCTTCTCGGCAAGCTCCGTCATCGGGATGCGGGCATTTCTGTTGAAGGATCTTAAGGATG
CGGAAATCGATTTTATCTAGTTCTTTCATTTAGATTGCCTTGATTTATTATTGATTTTA
ACAAATAGAGTATATAGTGGATTACAAAAACCAGTACGGCGTTGCCTCGCCTTGCCGTA
35 CTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCCTGATTTTTGTTAATCCACTATATAT
TTGAGAAAGCGATTATATCAGGAAAAGCAAACCGCCTTCCTACCTGAAAACGCTGCTTTC
GGCTTGAAGACACAAGGTTCTTTAATATTTTAAAGCCTTGCCGTTGGATTATAATCCCC
CAACCGATTTCTTAATTTTGCTAATAAACACTTGCTTGGTAAGGAATGAATTTATGCGCC
CTTTGAACGTGCAGATCAGGTTGGGCAACCTTAGGCACAATTATCGGATTTTGAAGGAAA
40 TGCACGGAGGCAAACCTGTTGGCGGTAGTGAAGGCCGACGCATACGGACACGGTGCGGTCA
GATGTGCTTTTCGCGCTGGCAGACTTGGCAGACGGCTTTGCCGTGGCGACAATCGATGAAG
GAATCAGGCTGCGGGAGAGCGGCATTACCCATCCGATTGTCCTTTTGAAGGCGTATTTG
AAGCATCGGAATACGAAGCGGTGGAACAATACTCGCTTTGGCCGGCAGTCGAAACCAAT
GGCAGCTTGAGGCTTTGCTGATCCGCCATTGGAAAAAACCGTCAAAGTCTGGTTGAAAA
45 TGGATTCCGGGATGCACCGTACCGGTTTTTCCCTCATGATTACGCTTCGGCATATGCGG
TATTGAAGCAGTCGGAATATGTGGACAGTATTGTCAAATTCTCGCATTTCTCCTGTGCGG
ACGAACCCGAAAGCGGTATGACGGAAATACAGATGGAAGCATTTCGATTTGGGTACGGAAG
GGCTGGAAGGCGAAGAAAGCCTTGCCAACTCCGCCGCTATTTGAATGTTCCCGAAGCAC
GCAGGGACTGGGGGCGCGCGGTCTGGCGTTATACGGCATTTCGCCGTTCCGAGGAGGCG
50 ATGACAGGCTGAAGCCCGTGATGAGGCTTTCAACCCGATTTTTCGGCGAACGCGTTTTAC
AGCCGCACTCCCTATCGGTTATGGCGCAACATTTATACCAGCAATCTACGCGCGTGC
GCCTGATTGCCTGCGGTATGCGGACGGTTATCCGCGCCGCGCCCAAGCAATCCCCCG
TCGCTGTGACGGCAAATTGACCCGGGTATCGGCAGGGTCTCTATGGATATGATGACCA

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TCGAGCTGGATGCTTCGCAAGAAGTTTGGGACACGAGGTGGAAGTGTGGGGCGATACGG
TCAACATCAATACCGTTGCCGAAGCGGCCGGAACCATCCCTTACGAATTGATGTGCAATA
TCAAACGTGCAAAATTCACCTATATCGAGTAATCAAGTCCAAACGAAATGCCGTCTGAA
5 GCCTTTCAGACGGCATTTCCTCATCAAAACCGCAATCAGTTTTTCATCGATTGAACCGGA
GCCGGAATTCTGCCGCTCGGTTGACGAATACTTCGCACGAACCTTCTTGACCGGCATC
ACAGGCGCGTAGCCCAACAAGCCGCGGAACCTCGACGCTGTGCGCCGACGGTTTTACCGGTT
ACCGGAATAATGCGCACGGCAGTGGTTTTGCTGTTGATCATGCCGATGGCGGCTTCGTGCG
GCAATGATGCCGGAATGGTGTGCGCGGGCGTGTGCGCGGAACGGCAATCATATCCAAG
10 CCGACCGAACAACGGCGGTCATGGCTTCGAGTTTTGTCCAGCGTCAGCACGCGCTGCTTCG
CGGGCGGCAATCATACCTTCGTCTTCGGAAACGGGGATAAACCGGCCACTCAAACCCCG
ACCGCGCTGGAAGCCATCATGCCGCTTTTTTACGGCATCGTTCAGCAATGCCAAAGCT
GCTGTTGTGCGGTGCGTACCGCAGACGCTCAAGCCCATTTCTTCAAGAAATGCGTGCCACT
GAGTCGCCGACGGCGGGGGTTCGGCGCCAGCGACAAGTCGAGAATACCAAACGGGATATTC
AGCATTTTTGAGGCTTCGCGGCCGATGAGTTCGCCCACGGGGTAATTTTGAAAGCAGTT
15 TTCTTCACTACTTCGCAACTTCGGTCAATGTCGTTGCATCTGAATTTCCAACGGCGCT
TTTACGACACCTGGGCGGGATACGGCGACATTGATAACGGCATCCGCTTCGCCCAGACCA
TGAAACGGCGCCGCGATAAACGGGTTGTCTTCCACCGCGTTGCAGAACACGACAATTTTA
GCGCAGCCGAAACCTTCGGGCGTGATTTCCGCGCTGCGTTTGACGGTTTCGCCCAGCAGC
TTGACCGCATCCATATTGATACCGGCACGCGTACTGCCGATATTGATGGAGCTGCACACA
20 ATATCGGTAGTCTTCATCGCTTCGGGAATGGAGCGGATTAACACCTCATCCGAAGGCGAC
ATCCCTTTTTGCACCAACGGGAAAAACCGCCGATAAAAGACACACCGATGGCTTTGGCA
GCTTTATCCAAAGTTTGCGCCACGCTGACGTAAGAATCAGCATGGGTGGCCGCCGCGATT
TGGGCAATCGGCGTAACGGAAATGCGCTGATTCACAATCGGTACGCGTATTGCGCAGAC
AGATATTTTCCCGTAGTGACCAAGTCTTTGCCGACTGTGGTAATTTATTGTAAATATT
25 TGGTTCAACACATTGATATCGCTGCTGATGCAGTCGTGCAATCAATGCCGATGGTAATG
GTGCGGACATCAAAATCTGGTCGGCAACCATTTTGACGGTTTCTAAATTTCCGCGGAT
TGGATACTCATCACATTCCCTCAACTCAAATGCGGTGCATCGCTTGAAGATTTCTTCGT
TTTGCATACGGATATCAAGCGCGAGTTTTTGTCTCTTCCGCAACAAATCCAAAACCT
CTTGACCGGATTTGCTGCATTTTGAAGTGTCACCAAGATAATCATAGTAAAAAATCGT
30 CCATCAGCTGTTGGCTGATGTTGAGAATATTGATTGGTTTTCCGCCAAAATTTTGAAA
CATCGTACAGTACCGGACGCGCTCTTACCAGTACGGTGATGACTGAATTTGTTACAG
GCTTACTCCTTGAGATATCCGTTAAAGTCCGAAATTATACCACCGTTGGATTTTGAGA
AATATTGTCAACAATATATACATACAAATGCCGCTGAAACTATTTAGACAGCATCAA
GATTACAGGTTTCGATTAAATAACCATCCTTATCCCACTGGGTTTTCTGACCAACTTGTC
35 ATCCTGATAAACAGCTTCGCTCTTTTAGAACCATCTTCATACCACTCCAAAACACCCC
GTTGCGTTGATGGTGGCGGATAGACAGTTCGAGAGTAATCGGCCGCTTTCATCCCAAGT
CAGAATTTTGGCAGGCTCATCGTTGACCATAACCATTTCCGTCTTGATACTGCCGTCGGC
ATACCATGCTTCCATACGCGTTTGCCCTATTGCTTAACTGGATTTCGCTTTCCCTT
GCCGCCGTTACGGTAATAGCGGTATCCCGTACCCTCAAGCCATTTTATAAGGCAT
40 AACGGCAGATTTTTTACCGTTCGGATACAGTTGACCCACTCCCGTCCGGCTTACCCTT
GCTGAAGCCCCCGCCATTTTTTCTGACCATTAAAATGCCACAAAATCAACATACCGTT
TTGCAGGGTAGGCACAAAAGATTTGATTTGCGTTGAAGCAACGATATAAGGTTGAGAATA
TTTCTTCATCGACGGATAATAAAAAATCCTGCGCGTGCGCAATACCGCCACCACATATA
TTGCCCTGATATAAGCGGCAGAAAGACATCGTCGCGCTCAGCTTTCGGTTCTGATTAAATA
45 AACAGAATAGGTCTGCGCCGGCAAAGCGGCCGAAAAACCAACAGGACAGTTGAAAATAC
AATCCGAGATAAATTTTTTCATTGCAATAGCGATATAAAAAACAAGGCTGTGTTTTAGTAAT
CTGTTGATTTCAATTATTTGCAAGGGAAAAGACAATTATTTCCGGTTAGGAATAAACCT
ATTCTATTGAATATATTGAAGCCAAGTACGCCTATCAACACTATATTAACACTGCCAA
AAACAATTAACCTATAAACAATATGGTAAGGATTTCTCTGCCAAGCATCAAACCGAGAC
50 AACGTATCGTAAAAATGCCGCTGAAAACAAATCGTCTTCAGACGGCATTTCCTCTCAA
CTCACTCTTACCCAATAACTGCTCGCGCTCAAGAGGAAAACAAAACCGTCGCCCCCGC
TGGTTTCAACCAAGTAAAAGGCAACTCCGGATACGCTGCTTCCAATACATCCCTGTTAT
GCCCCATTTCACCAAGCAATACACCTTTGGGATTGAGAACTTTGCCGCAATTCAGAAAGAA
TCTGCTGGTGGCATCCAACCCGTCGCCCCGCTGCCAATGCCAATTCCGGTTCTGTGCA
55 AATACTCTTACGGCAATAACTCAACCGATTCCGCATCCACATAAGGAGGATTGGAAACAA
TCAAATCATAAGTGCTTCCAATCCTTCAAACAAATCCGTATGAATAAGCCGGATGCGTT
CTTCAAACCATATCTTCGACATTAATCCCTGCCACTTCAAAGCATCCAAGCTCACAT

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CAACCGCATCAATTTGGGCATCAGGATAATGATGCGCCATCTGAATGGCAAGGCAACCGC
 TTCCGGTGCAAAGATCCAAAGCATTATGCACCAACTCATCGTATTCTATCCAAGGACGAA
 GTCCGTACCCCAACAATTATATAATAAAAGAACGAGGTATGATTACGCGCTCATCCACAT
 AGAAATCAAACCTCTCCCTGCCATGCCTGGTGTGTCAAATAAGCGGCTGGAATGTGTTGCA
 5 CAGCACGACGCTCAATAACCGCCAGCACTTCCTCTTTTTCAGCTTCCAAGAGTTTTCAT
 CAAGATATGGGGCAAGCATATCCAAAGGCAAATTCAAAGTATGCAGAATCAAATAAGCTG
 CTTTCATCATGCGCATTATCTGTTCCATGACCAAAAAAGAGCCCTGCCTCATTAAAAACGGC
 TGACTGCAAAACGTAAATATCGCGGATAGTCGTCAATTCTTGTGCTGCCTGATTAAACA
 TAATATGAACCATTTCTGCGTATAGATACTTTTAATTATAACAGAAACAACAAGCAAACCT
 10 TTTTCATATCGCCAAATAACCAACCCCAATCTACCCATACAACTACATAAATGCCGCGCGAA
 AACCATCGCCCCGAACGGAACGACAATGGCCGACGGTATGGGCAATCTGATTGGCTGGGA
 AAAACCGGGGCTTGTGTGCGTAAGCAGTGGATAACCGCAAAGACGACAAGGTGTCCGA
 TGTCTGCAATGCCAACGGCGAGATGGGCGTAATCGGGCTTTACGAGCCTTTCTCACACGG
 CGCATTGACGATACCCGGTTCATCCGAATGCGGATGCGAGGTTGTTTCCGTATCGGGTGG
 15 CGAATTGGGGGAATTTGCCGAAAAAAGGAGCTTCGTAAAGCGGGCTATGCAATGCGCG
 GGATAACTTTATCGGCAAAAGCTATGTCAATAAAAACAGCGGGCATGAAGTGAAGGTAAC
 TTGGCAAGGTGTGAACACGCTGCGTCAAAGGCAAATCAGGCGGAATTATCCATCATGAC
 AAAACTTGATGCTTATTGCGCTACGCAAAATATGAGGGTTCTTATTCGGATAGGAAAGG
 TCATCCTAATATTATTGCAGCACATAAGTATCGTGCCGTTGCCAAGGTTGGGAATGAGTC
 20 TTTAAATATCGGTGTGATTGTAAGGGAATTTCCAGACGACCATAAACATTACGACCATTT
 CATCTTGAAGGATGAATAAAGCCCTTTTGCAGTGTGCTTCTGGAGCGGATAGCGTTAAGG
 CAAGTACACTTCCAGCCTTGAAAAAGGGCTTTAAATTCAGCATGCCATTTATACAGGCAG
 GAGTAAACCCATGACAAAGTTATACGCAGAAATCGCAAGATGGAGACGAGGACGACGA
 CACGGTCAAGGTTTGGGGTTACGCTTCAAAGCGAGGAAATCGATTTCGGACGGCGAAGTCAT
 25 CGCGGCGGCGAGCTATGAAGGCGGCGATTCCCGATTATATGAAGTTTGGCGGGGCGCGA
 GATGCACGGCTCAAACGCTGCGGGAACGGCAATTGAAATCAACGTGGAAGATGACGGCAG
 AACCTTTTTCTGTTGGCGCATATCGTCGATCCCCTTGGCGTGACGAAGGTCAAACAGGCGT
 TTACAAGGGCTTTTCCATCGGCGGCGAGCGTTACCGCCACGATGAGTTGAACAAGTCGCA
 AATCACGGGTTTGAAGCTGACGGAATCAGCTTGGTTGACCGACCCGCCAATCCCAGTGC
 30 GGTGTCTACCTGCTTTAAGGCGGACAAAGGTGCGGAAGCGGTAAACAACGATACAGAACA
 TAATGCTACATATTTTAGCCATTTCCCTTCCAAACAAAAAGCACCAGCGCGGCCGATG
 CCCTTTCCCTTTACAGGTTCCCTTATTTTATCCGCGGCGAGCACCAGTTTGGCTGGGGC
 TTTTGGTGGCGGCGCGCCGACCGAAGCCTGGTCCTTCAGCTTCGCCAGCACCAGGGGCC
 GATGCCCTTTACCTTGGTCAAATCGTCTACAGACTTGAACGCACCGTTTTCGCGACGGTA
 35 TTCCGCAATGGCCTTCGCCTTCGCCGGGCGCTATGCCCGGCGAGCGCTCCAACTCCTGCTG
 CGAAGCCGCATTGATGTTTACCGCCGAAGGGAGAAGGCGCAGGAGAACAGCATACAGAA
 CAGCACGAACATTTTCTTCATGGTTTTTCTTTAAGGGTTGCAAACAATAAACCGCATCT
 TGGCAGGATAAAACGAGTCATTCTAAAATGAATATCCCAAAGTTTCAAGCCGTTCTCCG
 CAAACCCGACCGGACACCGTACGGATGCCGTCCCGCCATCACCAGACATTTTTCGGGCA
 40 AAGCAAACATTTTTCGGGCAAGCAAAACCCCGAATAATCGGGGGTTTCTGAATG
 GGTGTTTGGCAGTGACCTACTTTCGCATGGAAGAACCACACTATCATCGGCGCTGAGTCG
 TTTACGGTCTGTTTCGGGATGGGAAGGCGTGGGACCAACTCGCTATGGCCGCCAAACTT
 AAAGCTTTTACAAATCGGTAAGCCTTAATCAATATATTCGGTAATGACTGAATCAGTCAG
 TAAGCTTTTATCTCTTGAAGTTCTTCAAATGATAGAGTCAAGCCTCACGAGCAATTAGTA
 45 TGGGTTAGCTTACGCGTTACCGCGCTTCCACACCCACCTATCAACGTCCTGGTCTCGA
 ACGACTCTTTAGTGCGGTTAAACCGCAAGGGAAGTCTCATCTTCAGGCGAGTTTCGCGCT
 TAGATGCTTTCAGCGCTTATCTCTTCCGAACCTAGCTACCGGCTATGCAACTGGCGTTA
 CAACCGGTACACCAGAGGTTTCGTCCACTCCGGTCTCTCGTACTAAGAGCAGCCCCGTCA
 AACTTCCAACGCCACTGCAGATA
 50

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 72>:

gnm_72

TAAATGGGACTATAAGCAGGAAGGCTTAACCAGAGCCGGTGCAGCGATTGTTACCATAAT

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CGTAACCGCACTGACTTATGGATACGGCGCAACCGCAGCGGGCGGTGTAGCCGCTTCAGG
AAGTAGTACAGCCGAGCTGCCGGAACAGCCGCCACAACGACAGCAGCAGCTACTACCGT
TTCTACAGCGACTGCCATGCAAACCGTGCTTTAGCCTCCTTGTATAGCCAAGCAGCTGT
ATCCATCATCAATAATAAAGGTGATGTCGGCAAAGCGTTGAAAGATCTCGGCACCAGTGA
5 TACGGTCAAGCAGATTGTCACTTCTGCCCTGACGGCGGGTGCATTAAATCAGATGGGCGC
AGATATTGCCCAATTGAACAGCAAGKTAAGAACCGAAGTGTTCAGCAGTACGGGCAATCA
AACTATTGCCAACCTTGGAGGCAGACTGGCTACCAATCTCAGTAATGCAGGTATCTCAGC
TGGTATCAATACCGCCGTCAACGGCGGCAGCCTGAAAGACAACCTTAGGCAATGCCGCATT
AGGAGCATTGGTTAATAGCTTCCAAGGAGAAGCCGCCAGCAAAATCAAAACAACCTTCAG
10 CGACGATTATGTTGCCAAACAGTTCGCCCACGCTTTGGCTGGGTGTGTTAGCGGATTGGT
ACAAGGAAAATGTAAGAGCGGGCAATTGGCGCAGCAGTTGGGGAAATCGTAGCCGACTC
CATGCTTGGCGGCAGAAACCTTGCTACACTCAGCGATGCGGAAAAGCATAAGGTTATCAG
TTACTCGAAGATTATTGCCGGCAGCGTGGCGGCACCTAACGGCGGGCATGTGAATACTGC
GGCGAATGCGGGTGGAGGTGGCGGTAGTGAATAATGCTTTGAATTTTGACAGTACCCCTAC
15 CAATGCGAAAAAGCATCAACCGCAGAAGCCCGACAAAACCGCACTGGAAAAAATTATCCA
AGGTATTATGCTGCACATGCAGCAGGTGCGATGACTAATCCGAGGATAAGGATGCTGC
CATTTGGATATAGCAATATCCGTAATGGCATCACAGGCCGATTGTGATTACCAGCTATGG
GGTTTATGCTGCAGGTTGGACAGCTCCGCTGATCGGTACAGCGGGTAAATTAGCTATCAG
CACCTGCATGGCTAATCCTTCTGGTTGTACTGTCTGTCATGGTCACTCAGGCTGCCGAAGCGGG
20 CGCGGGAATCGCCACGGGTGCGGTAAACGGTAGGCAACGCTTGGGAAGCGCCTGTGGGGGC
GTTGTGCGAAAGCGAAGGCGGCTAAGCAAGCTGCTCCTAAAGAAACAATAAACAATTTGGC
AAATTTAGCCAAAGCAGAACAGCAGATTTTATTCGGTATTGCCAACGGCATACGCAACT
GGATGCATGGAAGACGGGATTTAACAATAGAGTAAGGAAAGGAGCAGGCTTGCTTGATGC
AAGTAATATTCGATAACCATTAACGGAAAAACCATCAAACCTGTACAAGCCATAAGCTT
25 AAAGGGAGCACCCGTTTACAGCGCGTAAAGCAACAGGAGATTTTGGCGCTTATCGGCA
GATGACTGGCCAGAATCCGAATTTTAGAGTTTGCCTGACGGAAGATTAGCAAATGGCAT
TATCAGTACTGGAGAATGGGCAGGAACAAAATTGCATTAAGAAATTTTCAAAAACAGA
GAATTCAACTCAAGCAGATGGACATTAGATTTGCAGAATCCTCCATCATTTATTAAAGG
TACTAAATTGGAGCTTAAATTCCAATAATTTACAAGGATTTTACCGTGGATGAGAAACA
30 AAAAAATTAAGATTCTTGATTTTCAAATCGATTTATCCTCAATTTTAACTCTTATAAAAA
TCAAATGGGTATTAATATTCAAGATGAAAACCTTAAAAACAATTTCTGTTCTTTTATGGA
AGAAGGTGTTAAATGACGGTTCAATCCGTTTACATGATTATACCGACGGTATCGGAATTCC
TCTAACTGGAACCTTCAAAGAACAAGTGCAGAAATTGAAAGACATATGGCCTACTTTGGA
AGATGCCCCAAGCAATATGGCCTGAAGACCCCTTGGTATTACTTAGAATGGCTTGGTGGGA
35 TATTGCGTGTCCAATAGATTTGGCCGATTTGCCGAATATTGATATTTATGAGCAAGCGTA
GGTATGGTTAGCCGCTTTAGCGCGTAAACCGTACGCATATCAGCAAACCTTTATAAAATA
ACAAGGCCGTCTGAAATCTGTTTTTCAACTTTTTTTCAGACGGCCTTGCAACTTGGCATTTC
ATTCTGACGGTTACGCgCTAAAGGCGGCTAACCGTACCTACGAGCTCTGATAAAAATGAT
TTATTGGAAGCAAGCTGTAGCCTGCATGAAACCTAAAATCCATGCGTAAGGTGTGTGCTTC
40 AGCGCGCACGCGTTCCATGATTTACGGCTCAATGCCGTCTGAAAAGCTCACAATTTTCA
GACGGCATTTGTATGCAAGTAAATATTAGATTCTCTGTATACTGTTTCAGACGCGTGCG
TGCTGAAGACACCTCCTACGCTTGCTGCAGAACTTTCGGGTAAAACCGGTGTGAGCATT
GCGCGCCGTATGCCAATGAAACAGCCGCATCCTGCTGAGCACCACGGATATCAGTTCGG
AAAACGGCAAAATCAAACCTGCAATCCTACGGCGACCAAGTCTACTACGCCGGACAGGGTG
45 AGCTCTACACCTTCGATAAACGCAGCTATAAAACCGGTAAGTGGTACAACTAAAACATG
TTACTGAAATCAAAGAGCATAAAACGCCAAAGCCGACCCGGTGAGCCTCAGTGCGTCAC
AAGGTATTGAAATCAAATCCGGCGGCAATATCGGTGCCACGCCACCTTGTTTGATGCAC
CCCGCGGCTCCGTTAAATCGAAGCCGGACGTGGGCTGGTTCTCTATGCCGTGGAAGATC
TCAACTACGACAACTTGACACCCGTACCAAGCGCAAATTTATCGGCATTACCTACGACA
50 AGGTGCACGACACCACCCACCCATGAAACCGCCCTGCCCTCAAGGGTAGTTGCAG
AATCGGCCAACCTGCAATCAGGCTGGGACGCCAACTGCAAGGCACCCAGTTTGAAACCA
CGCTGGGCGGCGCAGCCATCCGTGCAGGTGTAGGCGATCAGGCACGAGCAGATGCCAAGA
TTATTCTTAAGGCATCAAAAGTAGTGTGCGCACTGAAACAGTAAGCAGTAGCAAAATCTG
CCCTCTGGCAGAAAACAGGCCGGACGCGGCAGCAATATCGAAACCTTGCAACTGCCAAGTT
55 TCACAGGCTCCGTTGCGCCCGTACTCTCTGCTCCCGCGGGCTACATTGTGACATCCCCA
AAGGCAATCTGAAACCGAAATCGAAAAGCTGGCCAAACAGCCCGAGTATGCCTATCTGA
AACAGCTCCAAGTAGCGAAAAACGTCAACTGGAACCAAGGTGCAACTGGCTTACGATAAAT

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GGGACTATAAGCAGGAAGGCTTAACCAGAGCCGGTGCAGCGATTATCGCGCTGGCTGTTA
CCGTGGTTACTGCGGGCGGGAGTCGGAGCCGCACTAGGCTTAAACGGCGCAGCCGCAG
CAGCGGCCGATGCCGCTTTGCCTCACTCGCTTCTCAGGCTTCCGTATCGCTCATCAACA
ATAAAGGCGATGTCGGCAAAACCCTGAAGGAAGTGGGAGAGCCGCACGGTAAAAAATC
5 TGGTTGTAGCGGCGGCAACGGCAGGCGTATCCAACAACTCGGTGCCTCTTCCCTTGCCA
CTTGGAGCGAAACCCCTTGGGTAAACAACCTCAACGTTAACTGGCCAATGCGGGCAGTG
CCGCGCTGATCAACACCGCTGTTAACGGCGGCAGCCTGAAAGACAATCTGGAGGCAAATA
TCCTGGCGGCATTGGTGAATACCGCGCATGGGGAGGCGGCGAGTAAGATCAAAGGACTGG
ATCAGCACTATGTCGCCCACAAAATCGCTCATGCCGTAGCGGGCTGTGCGGCTGCAGCGG
10 CGAATAAGGGCAAAATGTCAGGACGGCGCATCGGTGCGGCTGTGGGTGAGATTGTCGGGG
AGGCTTTGGTTAAAAATACCGATTTTAGCGATATGACCCCGGAACAATTAGATCTGGAAG
TTAAGAAAATTACCGCCTATGCCAACTTGGCGCAGGTACAGTTGCAGGCGTAACGGGAG
GAGATGTCAATACTGCTGCACAAACCGCACAAAACGCGGTAGAAAATAATGCGGTTAAAG
CTGTTGTAACCTGCTGCAAAAGTGGTTTATAAGGTAGCCAGAAAAGGATTAAAAACGGGA
15 AAATCAACGTTAGAGATTTAAACAGACGTTGAAAGACGAAGGTTATAATTTAGCCGACA
ACCTGACCACCTTATTCGACGAAACATTGGATTGGAACGATGCCAAAGCCGTTATTGATA
TTGTCGTGCGAACAGAGCTGAATCGCGCTAATAAAGGGGAAGCGGCACAAAAGGTCAAGG
AAGTTTTAGAAAAAAATCGTCCTTATATCCCTAATAAAGGTGCTGTACCGAATATGAGTA
CATACATGAAAAATAATCCTTTTGGAAAAACAGCTGGCTCAAATTTAGAAAAGACAACGC
20 TTCCGACGCAGCAAGGGCAGTCTGTCTTCTTGGTAAAAAGAAACCAAGGGTTATTAAAAA
GCCGGGTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 73>:

gnm_73

25 GATGATGACGAAATTTACAGACTGTACGCGGTCAAACCGTATTAGCCGCCAACCCACAG
GGGATACATCTTGAAAAACAACAGACAAATCAAACCTGATTGCCGCTCCGTGCGAGTTGC
CGCATCCTTTTACGGCACATGCTGGACTGGGCGGACTGAATATCCAGTCCAACTTGACGA
ACCCTTTTCCGGCAGCATTACCGTAACCGGCGAAGAAGCCAAAGCCCTGCTAGGCGGGCGG
CAGCGTTACCGTTTCCGAAAAAGGCGCTGACCGCCAAAGTCCACAAGTTGGGCGACAAAGC
30 CGTCATTGCCGTTTCTTCCGAACAGGCACTCCGCGATCCCGTCTGGTGTTCGCGATCGG
CGCAGGCGCAGAGTTACGCGAATACACCGCCATCCTCGATCCTGTCGGCTACTCGCCAA
AACCAAATCTGCATTTTACAGCGGCAAGACACACCGCAAAACCGCTCCGACAGCAGAGTC
CCAAGAAAATCAAAACGCCAAAGCCCTCCGCAAAACCGATAAAAAAGACAGCGCGAACGC
AGCCGTCAAACCGGCATACAACGGCAAAACCCATACCGTCCGCAAAGGCGAAACGGTCAA
35 ACAGATTGCCCGGCCATCCGCCGAAACACCTGACGCTCGAACAGGTTGCCGATGCGCT
GCTGAAGGCAAAACCAAATGTTTCCGCACACGGCAGACTGCGTGCGGGCAGCGTGCTTCA
CATTCCGAATCTGAACAGGATCAAAGCGGAACAACCCAAACCGCAAACGGCGAAACCCAA
AGCCGAAACCGCATCCATGCCGTCCGAACCGTCCAAACAGGCAACGGTAGAGAAACCGGT
TGAAAAACCTGAAGCAAAAGTTGCCGCGCCCGAAGCAAAAGCGGAAAAACCGGCCGTTTCG
40 ACCCGAACCTGTACCCGCTGCAATACTGCCGCATCGGAAACCGCTGCCGAATCCGCCCC
CCAAGAAGCCGCGCTTCTGCCATCGACACGCCGACCGACGAAACCGGTAACGCCGTTTC
CGAACCTGTGCAACAGGTTTCTGCCGAAGAAGAAACCGAAAGCGGACTGTTTGACGGTCT
GTTCCGGCGGTTTCGTACACCTTGCTGCTTGCCGGCGGAGGCGCGGCATTAAATCGCCCTGCT
GCTGCTTTTGCGCCTTGCCCAATCCAAACGCGCGCGCCGTACCGAAGAAATCCGTCCCTGA
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GAGATTTTAACCCCTTCCGACGACAAAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 74>:**gnm_74**

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40 GACCGCGTGGAAGACGCGCTGCACGCTACCCGCGCAGCCGTTGAAGAAGGCGTGGTTGCA
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45 CTCGACCCCGCCAAAGTAACCCGTTCTGCGCTGCAACACGCCGCATCTATCGCCGGCTTG
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50 TTTTATTTCCCGCCATCCCAAAAACGAAGAGCGGCAGGAATTTATCGGAAAAACAGCAAC
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5 GTTGCTGTTATAGTGGATTAACAAAAACCAGTACGGCGTTGCCTCGCCTCAGCTCAAAGA
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10 GTTTCTGCCTGTTTTTCGGATGGTTTGACGTGCTTCGGCGGCGTGTGGCCAGAAAGGTA
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15 GCGACGCGTCAACGGCAATCAGCGGATTTAATCGCTTCGTTGGCGGATTTGTATGCCA
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20 TGGGCGGTTTTCGGAAAAAACCGAGGGGCTGACGGGCTGGCGTTTTTCGGGCGGCATCA
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25 ATTTGGGTTGGCAGTATAAAAAATGCACGGCAGACGGCGGGGATTTGCCGTTTTATCAGG
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35 ATTATCGTTTCGGCAGGACGGAAGTAATGTGCCGTATGCGAAACGCCGAACAGCGAGG
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10 CCAAGTATAGTGGATTAAACAAAACCAAGTACAGCGGTGCCTCGCTTAGCTCGAAGAGAA
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15 TCTAGACCTTAGAACCAACAGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTAGATT
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35 CACGTTCCACCGTCTGTTGGGTTTTCGCGCATGACGCGCAGACCGTGCCGTTGTGGTCC
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45 GACATGTACAGCTTGCCGCGGATAATCGCCGTACCGTCCACTTTTCAGCAGTTTGCCAAA
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50 TTGCCGTGCAAGTGCAGTTGGCTGCCGCTTTTTTGTATCAGGCCGCGCGTGCTGAAATG
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55 GGTGCGGAAAAGGATGTTCCGGCAATTTGAATCGGGTTGTACGGGTGAAACGACGCTT
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5 TCTACGCCCTGCGACTGTGATAATGCCTTTTTGAGCGTCTTTTTCATAAAATGGCAATAGG
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10 TTGGCTATTTTGAAAAGGTCGGCAGTGCCTGCCCTCGATGTTGTTCCAAAACGTATTG
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15 TCATCGTCGAAAGAAGCTTCAATGTCTTTACCGCTCCGTCTTCAGGCGCTTCTTTCCGC
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20 CTGCTGTGAACCGCAACGTCATCCCGACCGGCACAGAGCATGCTTCTGTCTTTGCACATT
TCGTTCTTGATACCGCGTAAGATACTGCTGCTGATTTCGCTGTTGTTGCTCTGCTGTTG
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30 AAGTGAATCGGTTCCGTACTATCTGTACTGTCTGCGGCTTCGTCGCCCTGTCTCTGATTTT
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35 ATTCAAAGATTATCTGAAAGTCCGAGATTCTAGATTCCCGCTTTTCGCGGGAATGACGAAA
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40 ATCGACCTCGGTGATGACTGATTGCCGTTGAAGCAATAAAATGCCGTCTGAACCTGAAA
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ACCGGATTTTTTCCAACCGGCGTGGAACCCCTGCATCGCTTCAAAGTTTTTCGCGGTTGAT
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45 ATAAACAGAACTGGTCAGACCAAACTCGCAATCGTTTGCCAAGGCGATGACTTGGTCGAG
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50 GGCAGGGTTGCCGTAGCGCACGCCCTTTCATCGCGGCGGTCATTTTTTCAATGAATGCGTC
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55 GGGCGACAAGGCATTGCCGATTTCCGCGCGGGACCGTTACACAGTTGAACACGCCCTGC
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CAGGAAGAAGGGGAAGTTCCACGGCAAAATGCCGCAATTACGCCAGCGGACGTTTGAA
CAATAAAATATTTTCGCGCGGGCGGTGCGCTTTGGATGATTTGCGCTTCGTAGCGGCGCGC
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TTTGGTTTTTCCGCCCTTCGGCAACGATGGTGTCCGTGAGCTCGTCGGCACGTTCCGCTAT
GCCTTGGGCGATTTTACGCAAAATACGCGCCGCTTCGACCGCAGGCAGACGCTCCCAAGC

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CGGTTGCGCCGCACGCGCCGCCGCGACGGCGCGGTCAACGTCCGCCCTTGCCGCCTTTGGG
TTCGCGGGCGATGGCCTCTTCGGTGGACGGGTTCAATACGTGCGGCCATTCGCCGTTGAA
ATCGTTTTCAAAGCGTCCGTTGATGTACATGGCCAATTGTTTCATTTCGGGTTCTCCAGT
TTTGTAGTTAGATGTAGTTTTAGTTTATTCCCAAATAAATTGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 75>:

gdm_75

10 GATCTAAGCGACACAGCCGGGGCGAACACTGAGGCAATCTACACTTCAGACGGCATTACC
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CCCGAAACCCTGATAAGTGAAGACAAGACGCACACGCCAAGCCCGAAAATGCAGGCAGC
CAAAACCTGCTGATTTCGTGGCGACAATCTAGAAGTGTGAAACACTTAAAAACGCCTAC
15 ACAAACAGCGTGAAGATGATTACATCGACCCGCCCTAAAAACACCGGATCAGACGGCTTT
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TGGCTCACCTTTATGTATCCGCGCCTGTATGTCGCGCCGCAACTGTTAAAGGACGACGGT
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20 GATGTGCCCTTTTGGTATTTTCGAGGATTATGAATGGATATTTGTATTCGCAAAATCTTGC
CAATTTATTGCGCAACTAAAGGCAAGGAACGACGCTATTATGAGACTGATGATTTCCCC
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30 AAGAGTAATGACCTAATCCTAGACTTCTTTCGACGCGAGCGGACAAACCGCCACGCCGTG
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35 GATTTTTCGCCGAACAACCGGATTTGCCGCTTAACGATGAATTAAGCGAAGAACAGCTG
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40 CTTGACCAGCGGTTTCGCGGTTATGCCAATAAAAAAGAGATTGAGTTGAATGTGGTTATC
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50 AAAAAGGAAATTCATGTGCTGCTGATTAAACGGGCGATGGTTAATTCGTGTCATGAAC
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AACGATGAATATTACAACCTTGCTTTACCGTTTGACGGCAGTAGACGCGTTTAACGACGGG
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5 CAGACGTTCAAACCTGGCAAAGGCGAAGATTTGGCGCAAATCCATCCGGCTATTTCCGGAT
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15 CGCGGCTGCGCTGCGGTAACGAGCTGATGGCGCGGCTGCGCGATGTACCGTACAAA
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5 TTCGACAACAGGGCTGAGGCGGTGGATTTTCGTCGATGAACAATACATCGTGCGGATCAAG
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15 GGTGGAATACGGCGACAAAAATGCCGGCAGGCAAATTTGAAGATCTGATTCCGGGCGAGTT
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55 AAAGCGGTCAAACCGGCGCGCGCTGATTCTGCTGGGGATGAAAACAGCTCCCGTCC
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5 GCGGGCATTTCCGATATCGTGGTTCTCCTCCTTGATCGGGATGCCGATTTTACCGCGTT
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AGCTGGACGCTACCGGCACGACTTCCAAGACGCCCGCAGTCTGAATCACGGGCAATGTAA
AA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 76>:

gnm_76

GGCAGGCATTTTGGCGTACACCGTCATCCAAATCTACTATATGAGCCGGGACGGGCAGTC
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15 CGTTATCGGTCTTGCACTAGTGACAACGGAGAAAACGCCATCAACCTGCTGGCATTCTCT
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25 GATCAATGCCGTAAGCTTCCAAAAGCGTCATCACGCCCTTGGGCGTACACGGGCGCATCA
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5 TGCCGGCGCACATACGCGGGCTGTTGCGCCAACACGACGGCTATTGGCGGCTGGTGCGCC
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25 ACCACTACCGCCACCCCGAAGAACACGGTTCCGACCGCTGGTTCAACGCCTTGGGCAGCC
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40 GACGACGAAGGCAACGAAACCCGCCGACCGTATTGATTGAAGACGGCATTTTAGTCGGC
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 77>:

gnm_77

GAATCAAAAATTAAGTTGGGGAGCGGAAATGGTTCCGCGTCTTACCCGTTTTTAGGAGTT
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20 AATCCATCTCTCCGTTGGTCTGCTTTGGGTGAGCGCGGTTGAATATTATGGAATTT
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25 GCTGCTGACTTGGATGCGGCTGTCCGTACTATAGCAGGTTCTGCTCGCTCAATGGGCTTG
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30 GTGTGGCTGTATTTACTCAAGGTGCAATGCAGAAGCTGCTAAAGAAGCTGGTGCAGATA
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50 GCTTAATCGATTTTCTGTTAATCAATTATTTTTAATACAATTTTGAGTAAAT
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 5 CCGCAATTCTACTTCCGTACCACCGACGTAACCGCGCGGTTACTTTGGAAGAAGGTGTG
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 30 AATCACCGTTCTATGTTTGAAGTCGGTCAACTGGTCGATGTAACCGGTACCTCTAAAGG
 TAAAGGTTTCTCCGGCAGGATTAACGTCATAACTTCGGTGCCCACTTATTCCGCTTGC
 AGCTTGCCGCTGAAGCGTACCAATACAGACTCGGGCATATCGAGCGGCATTACGCCCGTT
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35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 78>:

gnm_78

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 50 CAAAATGCTGAAGAACACGGTCGTATGCCCTCGTCCGTGGGTATGTCGCTCGGCACGGC
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 5 GAAGTGGAGTTGACCGACGCGATTGTGATGCGGCGGACGAATTAGCGCGACACGGCGAA
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 10 GCGCGTGTTAAACGCTATTCCGCACGGGCGAAAGTGGAGCAGCTTCATATCGAAAAATC
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 15 TTGTTGGAGTTGGGGGCGGTGGAGCCGCTGAAAACAGGCAGACATAAAAGAAAATCCG
 CGTAGAGTGATGTAACCTTACCTTGCTTTAATAAGTAGAAAATGGTGGGTTTACGTCCC
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 20 TAGCTGTTTATATTGAAGAACAATTAAAGGAAAAAGCACACAGAATTTGCGCTCATAGAG
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 CTTATGGTCAGAACTGGGATGGAATCGATGTATCAAATAGAAAAAATTATAGATGGGATA
 ATAACCTCATATACTATTTACTCAACGATTTTGATTGGTTATTACAATATTTATTCGCTC
 AACAAAATAATATTGCGGTAGCAAATAATCAAAGCTCAACCGTAATGAAAAGTAACCG
 25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 79>:

gnm_79

GCCCCTGGCTTCTTAAAGGTTGTCCGCCCAAATGCTCAATGACAAGGACTTGCCGTTAAA
 GCGGTAAGAAAACGTGTACTATTTCATAGGAGAAACCTTATGTATTTGAAATCTATAAA
 30 GACGCAAAAGGCGAATACCGTTGGCGTTTGAAAGCAGCCAACCATGAAATCATCGCTCAG
 GGCGAAGGCTACACCAGCAAGCAAACTGTGAGCAGCGAGTCGATTTGCTGAAAAGCACT
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 CGCGGGCTTTTTTGTGAGTTTCCGACTTTGCGGGAGTGATTGCCCGCCAGTCGCGCCAA
 GCCTGATTTTGATTTTCCAACCTCCGCCCATAGCCACCAAACCTCAGCGGCGTGTCCAAC
 35 AGCGTGGCCGCTTGCCTGCTTTTCGGCGGATTGCGGCGTACCAGCGCGACCATCAATGCA
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 GTTGTAGAGCTGCAGGCGGTGAGAGCCAAAGCCGTCAATGCAACCGCCGCTTGCATTTTT
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 40 AGCTTCCGCGCGTGCCAGTTCCAGTTCGCGCGCATAGTTTTGAGCCGACAACAGCAGGGC
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 45 CCGCCGACGGATCGGGCAACATCACAACTTAAACGTCCCAGCCGCGCAGGCAACGTTTG
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TCTGCATTCAATCAGCCTTTCTTACGAGTTGAAAACCGATGACTTTCAGTTTTGGGTT
TTGCCGCTAGAGATTTCTACGTTTCAGGTTTGCTTCGATCGGAAATGGGCGTTTCGG
AATCGCTCGAAATTGCGAGAGCCGCCGAATCGTATTTCAGTAGTAGAGCTGCCCAATGCG
TTGCCCTGGGAGCTGTCTAAGGGTGTGGCGACAATCAGGCAGCAATAGTCGAAGCTCTTG

CCTTCGATTTGTCCGTTGATTTTTTTAAACGCCGACGATGTGGCCTTGAAGTTGGATGTTT
ATTTTTTGGTTTCCCTGTGTGATTAACGCTCTTTCGGGCAGACACTTTAAGCCCATGAAA
TCGGTAGTCTTGCGAATTTGTCTGTAATGAAGTTGTTATAGCTTTCTTCATTGTTGACGT
5 GTTTTTGCTGTTCAAGCTGTTTTTCAAGATTCTCGTAATATTCGTACATATAGTAAGGGT
CTTTGTACGGTTTGAATGCGGGCTGTTTCATGAATGGCTTGAGCTTTCAAAAAGGCGCAGT
CGTAGGCTTCGGGAGCCAAAGACTTGGGCAGCTTGTGATGACTCGGCTCAATCAGTTCAA
ACAGTTTGGCTTTGTCCAATTCGGGAAAAATGAATTTAGACCGTTTGCCGCACGTCCGA
ACTGTTTTTTTTACCCATTCAAGGTAGCGGTGCGCTGAAATGACCTTATCTTCCTTAACCG
10 CGTGTATGCGCGTTGCCTTTTGGGCGAATCGTTCGCAAATCGGATATGCGCCGCCGAAAT
ATTCGCCCCGATTCTGCAAACTTCGAAAGGGATAACGATGTCTTTTGTGTTGAATTCAA
TTTCAAATCGCGTCCATGTGCTTGTATTCGCCCACTGCTTGCCCTTTTCATAGACGC
GGACATATTTGGACGATTACGGGAGCCGATACCATAGGTCTTGCCCTTTGGTCATTTTGG
CTTCATCGTCTTCTTCCCAATCTGACCCCAAACATTGCGCTTTTGGTTTGACGTGATGAC
15 AGGTAAACATACTTTTATTTTGGTCTTACGGGCTTGGTTGCGGCTGTATTCGCCGTTGA
AAAAGTCTTTTGGCATGTCAACGCGTGTGATTTTTTGGGCGGATTGCATTAGTCAGGAATG
CGAAAAGTCGTGATTCCCAGCCTTCTTTTGGCAGCGCGCAACCGGTGCCGGTCAGTTCGA
AAAGAATGGTATTTTGTGCGCCGCAAAATGGACGCGACCGTATAGGGCGTCTTCGAAC
CCATCAACCAACAGCGCTCATAGAAACGACCGCCGAACCTTTGGATTCTTTGTAGATAC
CGAAACCGAAAATCTTTCGGCGAGCATGGACGCGCGCGAATAAAATCTTCGTCTTCCA
20 AAAGACTTACACGAACGCCGATTTATCGAAAAAGGTTTTTCATGAAATGAAAAGCTAA
TTTGATCAATGAAAGCCGAATCTGATACACCGCGCGGAAGAGGAACGCCTAACAGTTTTT
CTTTACCGTCCGTTATGTACGTTTCGTAACATTGAAAGACTTCTCGAACCTGCGTCCG
TTTTCGGTTTCTGTCCCCCTGTAGATAAGGGGGGAAGATTTGAAGCGGTTGTGCGCTT
CCTGCCGTCCGCTAGCGCGTCCGTCATCAGCGCGCAACCGCCTTTGTATCCCTTGCTT
25 ATCTTCCATGGTGCGAATCTTCAAAAACGGGCAAAAAAAGCCCTGTACTTGTAGAAAG
TAAAGGACGTTAATTTTTGTTAATCGTCCCTTCTTAGGGACGCAATATATAAGGGACGCA
ATATATAAGGTTTTAAACGCTAAGAACAAAATCCGATAACGGCTCTGAAGAAGTAAGTC
TTTCTTTATTGCACAAGATAGCAAATTCACGGCATTCTCGCCCCACCGTGCCGTCCA
AGCCTTTTTCAAAGACATAGATGGTTTTCTTGGCAATCACTTCGTGAGTTTGGCGGTGCA
30 TAATCCGTATGGTGCACCTGCCACCCAGTGCCTGCGCAGCTTGGAAATCGACATTGTTTT
CGAACGTTACCGCATAACGGGCGGGGTGTATATGATTAAATATTTGATTAGCGGAAAAA
TCTTTACCTGAATACCGAATATATCGGAATGGTTGGGTTGCAGGACATCCACATAGCGG
TATTCCCCATCGCTAAAAATCCTAGGAAACGAGCAATAAAATTTACGCCTTCGCTGGTC
TGTAAGCCGCATTGTCCACATCGGGTCTCTGGTTTTTGCATCTGCCGAAACGGTACGC
35 TCAGGTACTACCTTCAACAGCATAATCCCTTCCACATTGTCCGCCGTCTGGTAAATCTTT
CCCCCGCGGTTTTGCAATTTGCGTTAAACACGGCTTCGGCTTCTTTGTATTTTCTGTCC
ACTCTTCTGTGCCTGTATTTCTTCTTTGATCGGGCCGAATTGTTTGGGAATAATCCAAA
CAAACAGCATCAGGATAGCGGCGGGGTGAGGCTGCCTGAAAGGATTTTGCCGGGGTTCC
GTTTGGGCTTTTTATAGGCAAGCGGACGAGAAACCAAGCAACAGCAGCATGGTGCCCC
40 AATAGCCGATTGAGAATAGGATGGCCAAACCTTCTAGGAAATGGCGTAAATCGTTTGTGG
TAAACATGGGTTGTTCCCTGTGGTTAAATGTGCAGGCTGCTTTTTGCCGAACCTTGCCGCA
TCTCAAAAGCAGCCTGCGCTTCAGCGTTGCGTTACGCAGTAAATAATGAATATTTGTAA
CGACTTGGGTATTTTTTGTCAATATTCCCGCCTTTCCCTTAACAGCTGCCGCGCTTTCCG
TTAAAATTCCTTTACATATTTATATTGTTTCTGTCTATATTGCCAAGGTTATACCCG
45 TTATGTTTTTCTCGCCCTGAAATCCTTTCTTCTCGATACATTACTGTATGGCGCAATG
TTTGGGCGGTGCGCGACCAAGTTGAAACCGCCAAACGCACGGCGGAAGAACAGGCGTTTT
TGCCCGCGCATTTGGAAGTACCGGATACGCCGGTCTCTGCCGCTCCGAAATGGGCGGCGC
GTTTTATTATGGCGTTTGCCTTTTGGCTTTGTTGTGGTCTGGTTCCGGCAAAATCGATA
50 TTGTGGCGGCGGCTTCGGGCAAAAGGTGTCGGGCGGCGCAGCAAAACCATCCAGCCG
TGGAAACGCGGTGGTTAAGCGGTACATGTGCGCGACGGGCGCATGTGAAACAGGGAG
AAACGCTGGCGGAAGTGGAGGCTGTGGGAACAGACAGCGATGTGGTGCAGTCGGAGCAGG
CTTTGCAGGCTGCCAATTTGCCAACTGCGTTATGAAGCGGTATTGGCGGCATTGGA
GCCGTACCGTGCCGCATATCGATATGGCGCAAGCAGGCTTTAGGTCTCTCCGATGCCG
ATGTGCAATCGGCGCAGGTGTTGGCGCAGCACCAGTATCAGGCATGGGCGGCGCAGGATG
55 CGCAATTGCAAGTCGGCTTTGCGCGGCCATCAGGCGGAATTGCAAGTCGGCCAAGGCGCAGG
AGCAGAAGCTGGTTTTGGTGGGGCGATCGAGCAGCAGAAAACAGCAGACTACCGCGTT
TGCGGCGCGACAATTTTATTTTCGGAACATGCGTTTTTGGAGCAGCAGAGCAAATCGGTCA

GCAATTGGAACGATTGGAAGTACGCGCGGTGAGATGAGGCAGATTCAGGCGGCCATTG
CACAGGCGGAGCAGAATCGGGTGTGAATACGCAGAACCTGAAACGCGATACGCTGGATG
CGCTGCGCCAGGCAAACGAACAGATTGACCAATACCGCGGCCAAACGGATAAGGCAAAGC
AGCGGCAGCAGCTGATGACAATACAGTCGCCTGCGGACGGCACGGTGACAGGAATTGGCTA
5 CCTATACGGTGGGCGGTGTGGTGCAGGCTGCCCCAAAAATGATGGTGATTGCGCCCGATG
ACGACAAAATGGACGTGGAAGTTTGGTATTGAACAAAGACATCGGTTTTGTGGAACAGG
GACAGGATGCGGTGGTGAAGATTGAGAGCTTCCCTATACGCGCTACGGTTATCTGACGG
GCAAGGTGAAAAGTGTGAGCCATGATGCGGTAAAGCCACGAACAGTTGGGCTTGGTTTATA
CGGCGGTGGTGTGCTGGACAAACATACCTTGAATATTGACGGCAAAGCAGTGAATCTGA
10 CGGCGGGCATGAATGTCACGGCGGAGATTAAACGGGTAAACGGCGGGTGTGATTATC
TGTTAAGCCCGCTGCAAACCAATTGGACGAAAGCTTTAGGGAGCGATAGGCGGATCCGT
ACTGGGCATTTGTTATCCGCCGGTTCCGACATGCAGACTGCCTGAAACCATTGCCCGGAT
GACATTGCTCAATCTAATGATAATGCAAGATTACGGTATTTCCGTTTGCCTGACACTGAC
GCCCTATTTGCAACATGAACATTTTCCGGCTATGAAATCCTATTTTCCAAATATATCCT
15 ACCCGTTTCACTTTTACCTTGCCACTATCCCTTTCCCATCCGTTTCCGGCTTTTACGCT
GCCTGAAGCATGGCGGGCGGCGCAGCAACATTCCGGCTGATTTTCAAGCGTCCCATTACCA
GCGTGATGCAGTGCAGCGCACGGCAACAACAGCCAAGGCCGATTCCTTCCCATGTATC
CGCCAAATGCCAGCTACCAGCGCCAGCCGCCATCGATTTCTTCCACCCGCGAAACACAGGG
ATGGAGCGTGACGGTGGGACAAACCTTATTTGACGCTGCCAAATTTGCACAATACCGCCA
20 AAGCAGGTTTCGATACGCAGGCTGCAGAACAGCGTTTCGATGCGGCACGCGAAGAAATGCT
GTTGAAAGTTGCCGAAAGTTATTTCAACGTTTACTCAGCCGAGACACCGTTGCCGCCCA
TGCGGGCGAAAAAGAGGCTTATGCCAGCAGGTAAGGCAGGCGCAGGCTTTATTCAATAA
AGGTGCTGCCACCGCGCTGGATATTCAGGAAGCCAAAGCCGGTTACGACAATGCCCTGGC
CCAAGAAATCGCCGTATTGGCTGAGAAACAAACCTATGAAACCAGTTGAACGACTACAC
25 CGACCTGGATAGCAAACAAATCGAGGGCCATAGATACCGCCAACTGTTGGCAGCTATCT
GCCCAAGCTGGAACGTTACAGTCTGGATGAATGGCAGCGCATTCGCTTATCCAACAATCA
TGAATACCGGATGCAGCAGCTTGCCCTGCAAAGCAGCGGACAGGCGCTTCGGGCAGCACA
GAACAGCCGCTATCCACCGTTTCTGCCCATGTGCGCTATCAGAATAACCTCTACACTTC
ATCTGCGCAGAATAATGACTACCACTATCGGGGCAAAGGGATGAGCGTCGGCGTACAGTT
30 GAATTTGCCGCTTTATACCGGCGGAGAATTGTGCGGCAAATCCATGAAGCCGAAGCGCA
ATACGGGGCCGCGCAAGCACAGCTGACCGCAACCGAGCGGCACATCAAACCTCGCCGTACG
CCAGGCTTATACCGAAAGCGGTGCGGGCGGTTACCAAATCATGGCGCAAGAACGGGTTTT
GGAAGCAGCCGTTTGAAACTGAAATCGACCGAAACCGGCCAACAATACGGCATCCGCAA
CCGGCTGGAAGTAATACGGGCGCGGCAGGAAGTCGCCAAGCAGAACAGAACTGGCTCA
35 AGCAGCGTATAAATTCATGCTGGCTTATTGCGCTTGGTGAAGAGAGCGGGTAGGGTT
GGAAACGGTATTTGCGGAATAAAGCAGGCTGAAACGGTTATGAAATTTCCAAAGCAGCCT
GCACCCCGTTTTGAAAGTGCAGGCTGCTTTGGGATTGATCCGATATTTTACATTCTCAT
TGCCCTTAAATAAAGCACAGTTAAAAACACATTTAAATTAAGTGCGAATTAATTCAAATG
TATATTCAATTAATAATCAAATAGGACAGTAGTGCATCGTTAAATCGGGCGTAATCAGAC
40 AATACGGTTTCGAGATACCGCTTAATATTGCCCCAAACCTTCTCAATCGGGTTGAGCTCA
GGTGAATAAGGTGCAAGAGGCAATACCTTATGTCCCAATTTTCCGCCATTTCCCGTAAG
ACACCCATACGGTGAAATCGTGCATTATCTAAAATAATCACCGATTTTGTAGTCAATGCG
GGCAGTAGGCATTGCTGAAACACGCTTCAAAAAGACTCCGGTCATCGTATTTTGATAA
ACCATCGGAGCAATCAGCCGGTTGCCGACTTGTGCGGACACCAGAGATAAGCGTCGGTAT
45 CTTTTTCCACTTATCTGCGCTTTCATTTTGCCTTTTCCAGGCTGCGGGCATAGGGACGG
AACAGGTGGCGGTCAAATCCTGTTTCAATCAAATAAACCGGTTGGTAGTCAGAAAATTCG
GCCGGCTGTGTCAAATAATGCGTTACTTTGGCCGGGTCTTGTCTTTGTAAGTGGTGGTC
TTTTTTTGGCGCTTATCCCATCTGTTTGAGTGCATAGCAAACGGTGGCTGCCGTACAAT
CAAAATGTTTGGCGATTTCATGCAGATAGGCATCCTGGTGTGCCCAACATATTGAGCCG
50 GTTTTTGCTTCCGATTTGACGGCATTGACCGGTAACCTTGATGTTTTAGGCTGCCTG
TTTGTTTTTTAAGGCGAATCCACAGGTAAAGTGTGTTTCTTGACAAGTTAAACGTTGCTG
CGGTTTGGCTGATGTTTTGCAATTGTTGTAATATAGTGGATTAAATTTAAACAGTACG
GTGTTGCCTCGCCTTCCCGTACTATTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGAT
TTTTGTAAATCCACTATAGTTTAAAGCTTTGTTTCTTAAGTCCGAGAGTATGCCATGGT
55 TAGACCTTCAAAGTTGAGTATTGTACTATTTGTTTTTAATTGACTATGCAACAAAAAT
AGCAAACTCCGGCAATCAAATGCCGTCTGAAGCGTTATTCGGCTTTCAGACGGCATTTT
TGATTTTAAAGCCGGGTAAACGCTCAATACGCCTTTGACGTCGCCGAGGCTGGCGAGGACG

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CGCGGGAGGTGCTTGACTTGTTTGACTTCGAGCGTGAACCTCATGCTGGCTTCCAAGTCG
 CGGGACTGGGTTTGACGGCGGTAACGTTGAGTTTGTGGCGGGCGAGCGCTCGGATACG
 TCGCGCAAAAGCCCGGAGCGGTCTTGGGCGCGGATTTCGATATCGACGGCGAATACTTGT
 CCTTCCTGCAATGCCGCCAGCTTTCGCTCCAGCACTTTTTCGGGCGCGTGTTCGGCGAGG
 5 TGTGGAAAGACGGGCAGGTTTTGCGGTGCACTGAAATGCCGCGCTCGCGGGTAACGAAG
 CCGATAATATCGTCGGGCGGCGGGGTTTGACGATTTGGCAAGCGTGGTCATCAGACCG
 TCTTCGCCGTGATGAGCACGCCGTTTTTGCCGCTTTTTTGATTTTGGACTGTTTGACG
 ATGGTGGTTTTGCTGACGGGTACGGGCGGCGGTTGTTTCAGCGTGCCGAGGCTTTTTGG
 ATGGCGCGGTTGGAAATTTGCCTTGTCCGACGGCGGTGTAGAGGTCTTCTGGCTTTTTG
 10 TAGCCGAGATTTTCGGCAAGCTCTTGACGTTGGGTTTGGGCGTGAGTTTGGCAAGCTGT
 TTGTGAGTTGGACGCGGCTTCTTCGCGCACGGTGTGCGCGTTTTGCTGGCGGATGTAG
 GCGCGGATTTTGCCGATTGCCTTGTGGATTGACCCAGCCTTCGTAAAGCCAGTTGACG
 GAAGGATGCCCTTCTTTGGCGGTAATGATTTCGACGCGCTGTCCGTTTTTCGAGCGGGGTG
 GACAGCGGCACAATCGCCCTTCGACTTTTCGACCGCGGCAACGGTCGCCGATGCTGCTG
 15 TGCAAGGCGTAGGCGAAGTCGATGGGGGTGCGGCGCGTGGGCAGGGAGAGGACTTTGCCG
 TGCGGGGTCAAAACATAAATCGTGTGCTTGAAGGCTCGGTTTTGAAGGCGGCGGCGAGG
 TCTTCCTTGCCGCTTTCCGCCATGTTTTCGCGCCAGTCCAAGAGTTGGCGCAACCAGGCG
 ATTTCTGTTCGTAGGCGGAATCGCCCTTGCCGCCCTCTTTGTAACGCCAGTGGGCGGCG
 ACACCGAATTGCTTGAATTGGTGCATATCGAAGGTGCGGATTTGTACTTCCACGCCTTTG
 20 TCTTCGGGCGGACGATGACGGTGTGCAAACTTTTATAGCCGTTGCCTTTGGGATTGGCG
 ATGTAGTCGTCGAACTCGCCGGGAATGGGCTGCCAGAGGCTGTGGACGATACCCAGCGTG
 GTGTAACACTCGGGGACGGTATCAACCAGAATTCGACGCGCGGATGTCAAAGAGGCCG
 TCGAAGCTGAGTTTTTCTTACCATTTTTTTGTAATGGAGTAGATGTGTTTCGGGCGG
 CCGGCGACTTCGAAATGGACATTGTATTTCTTGAGTTCACCGCGCAGGATGTTGAGGAAG
 25 TTTTCGATGTATTCGAGGCGTTCGGTGCCTTTTTCGTCCAAAAGCAGCGCATTTTCGCGG
 TATTTTTCGGGCTTTTGATGGCGGAAGCCCAAATCTTCGAGCTGCCATTTGAGCTGCCAC
 ACGCCCAAACGGTTGGCGAGCGGGGCGAAGATGTGAGGGTTTCTTTGGCGACGGCGCGT
 TTTTCGGGGCTGTGCGGGGCGTTGCTTAAAAATTGCAGGGTGCGCGTACGCATCGCCAGT
 TTGATTAACACGACGCGGATGTGCGTAAACCATCGCCAGCAGCATTTTCCGCATAGTTTCT
 30 GCCTGCTGGGCGGCTTCTTCGGCGTGGCGAGGCTGTCCACCCGGGCGAAGTGGGTGAGT
 TTCTGCACTTCGTCCACACCTTTGACCAGCTCGGCGACGGTACTGTTGCAGCGTTCGGAA
 ACCAATAGGTTCCAGTCGGGGACGTAGCGTCCGATGTGCGCAAGCAGGGTGGCGGCGACG
 GCATCGGGGAGCAGGTGAGTTTCATGAACATTTCGCCCGCGCCGAGGAAGTGGTGGGGC
 AGCGGCTCGCCATACGGCGTGGCGGCATCGGCGGGGTAATGTTTCTGCGCCAGCAACCAT
 35 GCGGTACCGATGAGGTTTTATCGTTGTCCGGCAGAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 80>:

gum_80

CCAGGCTTGGGTCTGCACCATGTTGTTTTCTAAATATTGCTGCCTTTGAAAACTTTAA
 40 AACCGCCATCGAAATCACCGCCGCCGAATCGACGAGGCAACGTCAGCCCGACTTTCAA
 ACCGAGGTAAACATTGGACGCAGTAAAAATTACAGTGATCAATGCACCGAGTATCATGCC
 TCGGAGCGTCAGCTCGCGGTATTCTTCTACCGAACTGGATAAAGATTATTCATTATTCT
 TCCTTTGACAACAGACGTTTACATATTGTTGGCATCACGCCATGATGTCAAGTTTTAAAA
 AGAACAGTTAAAAACAGTTATCCACCCCTGCCTCATACCCATTGAAAAATAAACTATT
 45 TTTAAACAAATAAAAAACAGCCGTATCAAGGAGATTCCCCGATACGGCTGCTTGTTCGGA
 ACCTTAAAAATCAATCAAAACAAATCGCGCAGCTTGCTAAAAACGATTCTTTCGCGCGGTGT
 TTGGTTTTTCAAGCCGGTAGAAATCCGCTCAAATTCTTCCAAAAGCTCTTTTTGACGGTC
 GGTCAAATTGACAGGCGTTTCGACAACAATATGGCAGTACAAATCGCCGGTTCGCGTGTCT
 GCGTAAAGATTTGACACCCTTACCCTTCACGCGCATCCTCCTGCCGTTTGGGTTTCTTT
 50 GGGGACGGTGAGCTTGACCTTTCCGTCCAAGGTGCGCACTTCCAACCTCCCGCCCAAAGC
 AGCCGTGGCAAACTGATCGGCAGTTCGCAATGCAAGTCCAGACCGTTCGCGTTGGAAAT
 CTTATGCGCCCGAATGCGGACGTTACATACAAGTCGCCGGCAGGCGCACCGTGCATACC
 CGGCGCGCTTCGCCGCTCAAACGGATACGCTGCCCGTCATCGATACCGGCGGGAATATT

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5 GACTTCCACCGTCTTGACCGCCTTATTCGCCCCGCGCCACGGCATTGACGCAAGGTTCT
TTTAATGTGTTTGCCCGCACCGTGGCAGGTGCGACAAGTCTGCTGCATACGGAAAATCGC
CTGCTGGATGTGCACCGTACCCGAACCTTTGCAAGTCGGGCAGGTTTCCGGGGATGTCCC
CGGTTTCGCGCCACTGCCGTTACAGACATCACACGCTTCATAAGTCGGAATATTGATGCG
10 TTTCTTCACACCTTTTGCGGCTTCTTCAAGCGTGATTTCGATACCGACTTGAACGTCCTC
ACCTTGATAATCAGGCTGGGCGCGCCCCGAACCGCCTCCAAACATTTGGCTGAAAATATC
CCCAAAGTCAAACCCCTGCGCACCGCCAAATCCGCCAAACCCCTCCGAAGCCCCCTGTCC
GCCGCTTCAAACGCCGCATGACCATCTGGTCGTACATAGCGCGCTTTTCCTTGTCGGA
CAAAGTTTCATCCGCTTTTGTACTTCTTTAAACTTCTTCCGCTCTTTATTGTCAGG
15 ATTGCGGTGCGGATGGTATTTTCATCGCCAATTTCCGGTAGGCTTTTTTAATCTCATCATC
GGTAGCTGTTCTTGCCACACCCAGCGTCGCATAAAAATCTTGATTACTCATTTTTTCATC
TAATTCAAAATAAAATCACGGCTCAAATAAGGGCAATTGCGCAAAACACAAGACAAACA
GACTGCCATAGCTTACAACTGAAACGGAATACATTTTCAGACAGCATAAACCGATGCC
GTCTGAAATCTTCAGGTATGCACGACACAAAACTTAGATAGGCATAAAACCAACCGCCA
20 TGAAGTGTTTTGTATAAAAACGCCGCCGCAACGCATGTTTCAGACGGCATTTGATGCGG
CCCGAGACTTCCCCCTTTTTTATTTTATCCGCGGCGCAGCACTGGTTTGGCTGGGCCTT
TTGGTGCGGGCGCGCCGACGGAAGCCTGATCCTTCAGCTTCGCCAGCACCGCAGGGCCTA
TGCCTGGCAGCGCTCCAACCTCTGCTGCGAAGCCGCATTGATGTTTACCGCCGCAAGGG
AGAAGGCGCAGGAGAACAGCATACAGAACAGCACGAACATTTTCTTCATGGTTTTTCCTT
25 TAAGGGTTGCAACAATAAACCGCATCTTGCGACGATAAACGAGTCATTCTAAAATGAA
TATCCCAAAGTTTCAAGCCGTTCTCCGCAAACCCGACCGGACACCGTACGGATGCCGTC
CCGCCATCACCGACATTTTTTCCGGGCAAAGCAACATTTTTTCCGGGCAAAGCAAAAC
CCCCGAATAATCGGGGGTTTTCTGAATGGGTGTTTGGCAGTGACCTACTTTTCGCATGGAA
GAACCACACTATCATCGGCGCTGAGTCGTTTACGGTCCTGTTCCGGGATGGGAAGGCGTG
30 GGACCAACTCGCTATGGCCGCCAACTTAACTGTTACAAATCGGTAAAGCCTTAATCAA
TATATTCGGTAAATGACTGAATCAGTCAGTAAGCTTTATCTCTTGAAGTTCTTCAAATGA
TAGAGTCAAGCCTCACGAGCAATTAGTATGGGTAGCTTCACGCGTTACCGCGCTTCCAC
ACCCACCTATCAACGTCCTGGTCTCGAACGACTCTTTAGTGCGGTAAACCGCAAGGGA
AGTCTCATCTTCAGGCGAGTTTCGCGCTTAGATGCTTTCAGCGCTTATCTCTCCGAAT
35 TAGTACCCCGCTATGCAACTGGCGTTACAACCGGTACACCAGAGGTTTCGTCCACTCCGG
TCCTCTCGTACTAGGAGCAGCCCCGTCAAACTTCCAACGCCCCACTGCAGATAGGGACCA
AACTGTCTCACGACGTTTTTAAACCCAGCTCACGTACCACTTTAAATGGCGAACAGCCATA
CCCTTGGGACCGACTACAGCCCCAGGATGTGATGAGCCGACATCGAGGTGCCAAACTCCG
CCGTCGATATGAACTCTTGGGCGGAATCAGCCTGTTATCCCCGGAGTACCTTTTATCCGT
40 TGAGCGATGGCCCTTCCATACAGAACCACCGGATCACTATGTCCTGCTTTCGCACCTGCT
CGACTTGTGCTCTCGCAGTTAAGCTACCTTTTGCCATTGCACTATCAGTCCGATTTCCG
ACCGGACCTAGGTAACTTCAACTCTCCGTTACGCTTTGGGAGGAGACCGCCCCAGTC
AAACTGCCTACCATGCACGGTCCCCGACCCGGATGACGGGTCTGGGTAGAACCTCAAAG
ACACCAGGTTGGTATTTCAAGGACGGCTCCACAGAGACTGGCGTCTCTGCTTCTAAGCCT
45 CCCACCTATCCTACACAAGTGACTTCAAAGTCCAATGCAAAGCTACAGTAAAGGTTACG
GGGTCTTCCGCTCTAGCAGCGGGTAGATTGCATCTTACAACCACTTCAACTTCGCTGAG
TCTCAGGAGGAGACAGTGTGGCCATCGTTACGCCATTCTGTGCGGGTCGGAACCTACCCGA
CAAGGAATTCGCTACCTTAGGACCGTTATAGTTACGGCCCGCTTACTGGGGCTTCGA
TCCGATGCTCTCACATCTTCAATTAACCTTCCAGCACCGGGCAGGCGTCACACCTATAC
50 GTCCACTTTCGTGTTAGCAGAGTGCTGTGTTTTTAATAAACAGTCGCAGCCACCTATTCT
CTGCGACCCTCCGGGGCTTACGGAGCAAGTCCTTAACCTTAGAGGGCATACTTCTCCCG
AAGTTACGGTATCAATTTGCCGAGTTCTTCTCTGAGTTCTCTCAAGCGCCTTAGAATT
CTCATCTTCCCCACCTGTGTGCGTTTGCGGTACGGTTCGATTCAAACCTGAAGCTTAGTGG
CTTTTCTTGAAGCGTGGTATCGGTTGCTTCTGTGTCGTTAGACACTCGTCTGCTCACTTCTC
55 GGTGTTAAGAAGACCGGATTTGCCTAAGTCTTCCACCTACCGGCTTAAACAAGCTATT
CAACAGCTTGCCAACCTTCTCCGTCCTCCGACATCGCATTTGAATCAAGTACAGGAA
TATTAACCTGTTTCCCATCGACTACGATTTCTGCCTCGCCTTAGGGGCGGACTCACCT
ACGCCGATGAACGTTGCGCAGGAAACCTTGGGCTTTCGGCGAGCGGGCTTTTACCCGCT
TTATCGCTACTCATGTCAACATTTCGCACTTCTGATACCTCCAGCACACTTTACAATGCAC
CTTCATCAGCCTACAGAACGCTCCCCTACCATGCCGGTAAACCGGCATCCGCAGCTTCGG
TTATAGATTTGAGCCCCGTTACATCTTCCGCGCAGGACGACTCGACCACTGAGCTATTAC
GCTTCTTTAAATGATGGCTGCTTCTAAGCCAACATCTGGCTGTCTGGGCTTCCCACT

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TCGTTTACCACTTAATCTATCATTGGGACCTTAGCTGGCGGTCTGGGTGTTTCCCTCT
TGACAACGGACGTTAGCACCCGCTGTCTGTCTCCGAGGAACCACTTGATGGTATTCTTA
GTTTGCCATGGGTTGGTAAGTTGCAATAACCCCTAGCCATAACAGTGCTTTACCCCAT
5 CAGTGCTTGCTCGAGGCACTACCTAAATAGTTTTCGGGGAGAACAGCTATCTCCGAGT
TTGTTTAGCCTTTACCCCTATCCACAGCTCATCCCGCATTTTGCAACATGCGTGGGT
CGGTCTACACCCAGCAACTCATCGCCCTATTAAGACTCGGTTTCCCTACGCCTCCCTAT
GGGTCTACACCCAGCAACTCATCGCCCTATTAAGACTCGGTTTCCCTACGCCTCCCTAT
TCGGTTAAGCTCGCTACTGAATGTAAGTCGTTGACCCATTATACAAAAGGTACGCAGTCA
10 CACCACTAGGGCGCTCCCACTGTTTGTATGCATCAGGTTTCAGGTTCTGTTTCACTCCCC
TCCCGGGGTCTTTTTCGCTTTCCCTCACGGTACTGGTTCATATCGGTCGATGATGAGT
ATTTAGCCTTGGAGGATGGTCCCCCATATTAGACAGGATTTACGTCGCCCGCCCTAC
TTTTCGTACGCTTAGTACCGCTGTTGAGATTTGAATACGGGACTGTCACCCACTATGGT
CAAGCTTCCCAGCTTGTTCTTCTATCTCGACAGTTATTACGTACAGGCTCCTCCGCTTC
GCTCGCCACTACTTGCAGGATCTCGGTTGATTTCTTTTCCCTCGGGTACTTAGATGGTT
15 AGTTCTCCGGGTTTCGCTTCTCTAAGTCTATGTATTCAACTTAGGATACTGCACAGAATGC
AGTGGGTTTCCCCATTTCGGACATCGCGGGATCATTGCTTTATTGCCAGCTCCCCCGCT
TTTCGAGGCTTACACGTCCTTCGTCGCCTATCATCGCCAAGGCATCCACCTGATGCACT
TATTCACCTTGACTCTATCATTTCAAGAACTTCTTTGACTTGCCTAACATTCCGTTGACT
AGAACATCAGACTTGAATTTCTACTTTGATAAAGCTTACTGCTTTGTTGTGCTTAAATC
20 CTGCCTTTTGTGTTTCAGGATTAAGTCGATACAATCATCACCCAAATACTGTGTTGTTT
TCTTTCTCTTGCAGAGATTTTATCCTTTGCAAGAATAAAAAATCAAAACAAACGCT
TTGTCTTTGTTTGTGATTTTCGGCTTTCCAATTTGTTAAAGATCGATGCGTTCGATATTG
CTATCTACTGTGCAAATCAAATCGAGCTG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 81>:

gnm_81

CATGCTGAACGTTTGGCTGACATAAAGTTAAATGAGTCAGTCCGCTATAATTGATGAAAC
GGGTTAAAAAAGTGTGCCATCGCCTGTTCTTCTGTCGATACGCTTAAATAAGACCAG
30 CAAATAAATGGGCAGGCCAATCAATAAAACATACCACGCTTGACATAATAAGCGATGCC
AATCAGTTCGGGTATGATGTTTAAAAAATAATTGGGGTGGCGGAATGTTTAAACAACCA
CGAACGATTAATTTGATGATTTGGTAAATATAGATTTTAACCGTCCAAATCTCCCCAA
CTGCTTAATAATCAATGACAATATCACAACGAAGCCATCACCGTCAGCGTACCAATCAA
GGATATGCCATTAAAGCAGTGTGAGAAAGCCATACCCAAACAAACACGCCAAATAATA
AAGCGTATGAATGCCGCAAGCAGCGTGGAATTGGTTTTCCGTATTGTTTCGCCCTTT
35 GGCAATCAAGGCTTTTTCATGTTTAAATAGAGACGGCTAAAAATAACAGTCTGATGATAA
AAACAGGCTTAAATGCTTAAATCATTGTCTGATGTTTTCATTGAAATTGAAATA
AATATAAATCGGATTAATGGTATTTTAAATTAATGATGTTTCAGACCATCATGCTCTATA
AACAATTTCCATTAAAGTCCGCGCCGAACCTGCTATAATAAGTCTGCAATCGGCGCAAT
CAATGCTTTGCGTTTATTGCCATCCAAAATAATTGATGCTGCCTTAATTATAATACCAA
40 GATAAGTTTTTTTATTCAATAAAATACAAAGGAAGCGTTCAGCCCATTCGAAACAGATG
CAATCCACCGATTATTTAAAAACGGCAAAGCCTTGCCCCCTTGCGGCAAGCCTGCAAT
GCCTTTAATGTCCGCAAGCGCAAGCGTCGCCGTGGTGCCGCAACCCTGTCCGTTTCGA
GCCATTTCGTCGTCATCGCCGTCAAACCTCTCCACTTCGTCAAACCTCGCCGCGTTCCACCA
TGACGCACAACCTTCAAGGCTTTCCGCGCCTTCCACCCAAAACAGGAATGCCGCGCG
45 GCATATCGGGCGCAAGCAGTGCCTTACGCTTTCATGCCACGCAATCCAATAGCCGTTGT
CCGTACGGACGAATTGTGCGTTTTCGTTGACCGACTCGCCTTCCGTACCTTCCAGCATAC
GTTCCGCAATGTCCGGTTGAAAAGATAAAATCTGCATAAGTGTTCTTTATATGATGGTT
TTCCGTCAAACAAGGTGTTATAGTGGATTAAATTTAAACAGTACGGCGTTGCCTCGCC
50 TTGCGTACTATTGTACTGTCTGCGGCTTCGTCGCCTTGCTCTGATTAAAGTTAATCC
ACTATATTTTAAACATCGCGCCGCTTGAGAAACTGCCAACCCTTTATAACAAATTTCG
TCTTTCACCAAACTTTCCATTCTTTCCGTTTTTCGGACGGCATCGTTAAAGTAGTCCTT
CCTTTTCCTTATTTTCAGCATTTGTTTATGTTAGCGCTCAAACGCCCGGCGTACTGCC
GGCTTCAAACCTAGCCTTGGTCTGACCGTATTGTGCTGCTGCTGTTGGTCTTGCCG

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TTTGCGATGATGGCGGCGAAGGCGGCGGAAATCGGCTGGGGCGGCTTTTGGAACACGATT
GCCGAGCCGAACGTGTTGGCGGCGGTATGGCTGAGCTTGGGATGTCGTTTTATGCGATG
CTGACCAATGTCGTGTTGGGCACGCTGGTGGCGTGGGTATTGGTGCCTTATGAATTCCCG
5 GGCAAGGGTCTGGCGAACGCGCTGGTCGATTTGCCGTTTGGCTGCCGACGGCGGTTACG
GGTATCGCGTTGGCAACCCTGTATGCGCCCAACGGTTGGATAGGCCCTTTTTTCGAGCCT
TTGGGCATCAAAATCGCGTTTACACCCGTCGGCATTGGATTGCGCTGGTCGTCTCAGC
CTGCCCTTTATCGTCCGCGCCGTGCAGCCGGTATTGGAAGAATTGTCGGGCGAATATGAG
GAAGCGGCGGCAACTTTGGGCGCAAGCCGTTGGACTACGTTTCGCCGTGTCCTCTTGCCCT
GAAATCACACCGGCACTCTTGACCGGCGCGGGAATGATGTTTGGCGGGCAACGGGGGAA
10 TACGGTTCGGTGATTTTTATCGCGGGCAACATTCCGATGGTTTCTGAAATCCTGCCGCTG
ATTATTACGGGCAAGCTGGAACAGTTCGACGTGCAGGGCGCGTCGGCGGTGGCGTTGTTT
ATGCTGCTGGTTTCGTTTGTGATTCTGTTTGGCTGAACGTGATGCACTGGGCGTTGGGC
AGGCGTTCGGGCGCGAAGGGTTGAGGTGCTCTGAAATACCTGTTACCGTCATTCCCGCGC
AGGCGGGAATCCATTGGTGAATTTGGCTGCCCTATTTATTTCTGTTTCTGTTTGGCC
15 TGCGGTGGATTCCCGCTGCGCGGAATGACGGTAGCTAGACGTTTTATTCCCTTAATC
AATAAAAGGTTGTCTGAAAACGAATCCGCCCCACAAAAACGGTTTTTCAGACGGCATCC
AAACATTTTAAAACCAACCAGAGAACCACCGCCATGAAACCCTATTCGCCAATCCCA
ACCTGACCGAACC GCGCGCGCTGCGCGTGTGCTGATTGCCGCGCGCTGGGCTTTCTGC
TGCTGATGCTGGTCTGTCGCGCTCGTCGCCGTGTTTACGAAGCCTTAAAAGGCGGTTGGG
20 ATTTGTACCTGAAATCCTTAAACGATCCCGAAGCGTGGTCTGCCATCAAATTGACGCTGA
TTACCGCGCTGATTGTCGTTCCCGTCAATGCCGTATTGGGTGTGGCGATGGCGTGGCTGC
TGACCCGTTTTGATTTTCGCGCAAGCAGTTGCTGACCACCTGCTCGATTGGCCGTTTT
CCGTATCGCCCGTGGTGGCCGTTTGATGTTGCTCTTATTGTTTCGCGCGCATACGGCAT
TGGGTGGCTGGCTCGAAGCGCAAGGCATACAGATTATCTTCGCCATCCCCGGTATTGTTT
25 TGGCGACGCTGTTTCGTTACCTTCCCCTTTGTGCGACGCGAAATCATCCCGCTGATGCAGG
CACAGGGCGACAGCGAAGAACAGCGGCATTGATACTCGGCGCAAGCGGCTGGCAGATGT
TTTGGCGCGTTACCCTGCCCAACATCAAATGGGCGTTACTCTACGGCATCATCCTCACCA
ACGCCCCGCGGATGGGCGAGTTCGGCGCGGTACGCGTGGTATCGGGACACATACGCGGCG
AAACCAACACCGTCCCGCTTTTGGTCGAAATCTTCTACAACGAATACAACCTTACCGGCG
30 CATTCGCCCTCTCCGGCGTATTGGCATTTTGGCACTGGCGACGCTGGCGGTGCAGAACA
TCATTACCAAAATTACAAGACAAAAACTCGCCGCGCGGAAAGGAATGCAATATGAGTAT
CACCATCCAAACTTAAACAAACACTTCGGCAATTTTACGCGCTGAAAAACATCAACCT
CAACGTCCCCACCGGCAAACTCGTTTCCCTGCTCGGCCCGTCCGGCTGCGGCAAAACAC
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35 GCAAGACGTAACCGCAAAACATGTGCGCGAGCGCAAAGTCGGCTTCGTGTTCCAACATA
CGCCCTTTCCGCCATATGAACGTGTTTGACAACGTCGCTTTCCGTTTGACCGTATTGCC
CAAGTCGGAACGCCCGTCCAAAGGACAAATCCGCGCAAAGTCGAAGAATTACTCAAGCT
CGTGCAGCTCTCTCATTGGAACAAATCCTATCCGCACCAACTCTCCGGCGGCAACGCCA
GCGCATCGCCCTCGCCCGCGCGCTTGCGGTGGAACCAAACTCTTGCTTTTGGACGAACC
40 CTTCGCGCGGTTGGATGCCAAAGTACGCAAGAATTACGCACCTGGCTGCGCGACATCCA
TCACAACCTGGGTGTAACAGCATTCTGGTTACGCACGACCAAGAAGAAGCCCTCGAAGT
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TATTTACCGCAAAACCGGAAATGCCTTCGTTACCGAGTTCTCGCGAAACCGACGCTTT
TGAAGGACGCATCGAAAAAGGCTTCTGGCATTACAACGGCTTCGCGTGGAATTGGACGC
45 GCAATACAAATGGCAGGAACAAACCGCCACCGCTATATCCGCCCGCACGAATGGCAGAT
CGCCGCCGAACACGAACACCGATGATTTGTGCCGAAATCGAAAAATCCACGCCGTCGG
CGCATTGACGCATATTCTGTTAAACACGACAAACAGGACGTACATATCACGCTGGCAGG
CAGCGATGCCGCGCGTTACCCAATCGCCGAAGGCAAGAATTGAAGCTGATTCCGAAACA
GGTTTATGTCTTCTCTCAAAACGAACGATTGAATATTCGATTAAACCATGAAAGCGCAA
50 TGCCGTCTGAAAGGCTTTCAGACGGCATTTGCTTTCAAGCGTCAGGCAAGAAACAGCTT
GTACGCGGCGATTTTGCCTTCTCGTGATGCTGTATCCAGACTTTCCAAGAAACCGTC
AAATGCGGCGGCATCGTGGCGGCGCACATCGATACCGACCAAAATCCGCCGTAATCCGC
ACCGTGGTTGCGGTAATGAAAAGCGTAATATTCCACCCTCCCTGCATATGGTTCAAAAA
GCGTGCCAATGCCCCGACGCTCCGGAACCTCAAACTGACCAAAACGCTCGTTTTCTAC
55 TTTGTCCGTCCGCCCTCCGACCATATAGCGGATATGGATTTTGGCAATCTCATTGTTGGT
CAAAATCGACATTGGGCAATCCCGCTCATCCAACCGGCTGCCGATAACCGCCAAATCCTG
CGGCGCTGCCGCTTGAAGTCCGACAAAGATATGCGCTTTTTCATCGTCTCCGTAGCGGTA

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5 GTTGAAC TCGGTAATATTCCTATTTCCCAATATATTGACAACTTAAGGAAGCTGCCGCG
TTCTTCAGGGATGGTAACGGCAAAAATACCTTCGTTGCCCTCGCCCAATTTCGCTCCGTTTC
CGAAACGTGGCGCAAAACGGTGAAAATTCATATTCGCACCGCTGGTAACGGCAATCAGGGT
10 TTGGTTTTCCGCGCCTTCTCGGGCGATATAGGCTTTCAGACCCGCCAACGCCAACGGCGCC
CGCCGGCTCGGTAATGCTGCGCGTGTATCGAAAATATCCTTGACCGCGCCGCAAAACCGC
ATCGGTATCGACTGTAATGATTTCATCCAAAAGTTCTTTGCAGAGCGGAAGGTTTCGTT
TCCGACGACTTTGACCGCAGTGCCGTCTGAAAACAGCCCGACATCTTTCAAATGGACGAT
TTCACCCGCTTCGACCGACTGCTTCATACAGCAGGAATCGTTGGTCTGAACGCCGATAAC
15 TTTGATTTCCGGACGGACCTGCTTGATAAATGCCGCCACGCCCGCCGCAAAACCGCCACC
GCCTATCGGTACGAATACGGCGCGGATTGGATCGGGATGCTGGCTGACAATTTCCATCCC
CACCGTCCCCTGTCCCGCAATCACATCAGGATCATCAAACGGCGCGATATAGGTTAACCC
TTCTTTTCCGCCAACTCCATCGCATAATCGTAGGCATCGTTGTATGAAACGCCCCGCAA
AACCACCTCGCCCGCATGGCTTTTAACCGCATCCACTTTGATTTTCGGCGTAGTCTCCGG
CATAACGATAACCGCACGGCACGCCAAACGCTGTGCGGACAATGCCACGCCCTTGACGATG
20 ATTGCCCGCGCTTGCCGCAATCACGCCGCAAGCGAGCGCATCTTTCGGCAACTTGGACAT
TTTGTGTACGCGCCGCTATTTTGAACGAAAAACCGGCTGCAATCTTCGCGTTTCAA
AAGGATGTTGTTTTTCAAACGTACAGAAAGGCTGCGTGCCGGTTCCAAAGGCGTTTCGAC
CGCCACATCATAGACAGATGCCGTGAGGATGCGGATGAGGTAATCGGAATAAGGAAGGGG
CGTGTTTATAATTCATATGGGATAATCGGTTTATTAAATCGCAAAACCCAAAACCAT
25 CGCCCAAGACGGCGGAAATCAAGAAAAATCCGCCGATCAGACACCTAAGCGTATAAT
CGGCAGACTGAAACACGCACACAATTAGAATATTTTCATGACAGCACATAAAATCCTGCC
GTCTGCTTTCCATCATCTTAGGCGTTTCTCACGCAACGGCTGCATCGCCCGCGCCCAAC
AGACCGACGGTACAGCGCCGCCCCACGTTCCAAACACCCGAAACCTCACAGCGGCACAC
ATCGTTATCGACCTTCAAAGCAAACAGATTTTATCCGCCAAAACATCAATACCCCTGTT
30 GAACCGGCGGCACTAACCCAACTGATGACCGCATATCTGGTTTTCAAACATGAAATCG
GGCAATATCCAATCTGAAGAAAATTAATAATACCCGAATCCGCATGGGCTTCAGAAGGA
AGCAGAATGTTGTACGTCCCGGCGATACGGTCAGCACCGACAACTCTTAAAGCGCATG
ATTGCACTATCCGCAACAGATGCCGCCCTAACCTTTCGCCGCGGCTGGGCAACGGCTCG
ATTGAAAATTTTGTGCAACAAATGAACAAAGAAGCCCGACGCTTGGGCATGAAGAACACT
35 GTATTCAAACCCGACAGGCTTGAGTAGAGAAGGACAGGTTTCCACCGCCAAAGACCTC
GCCCTGCTGTCTGAAGCATTGATGCGCGACTTTCCGGAATATTACCGCTGTTTTCCATC
AAATCTTTCAAATTCAAAATATAGAACAAAACAACCGCAATATCCTTTTATATAGGGAC
AACAATGTAAACGGTCTGAAAGCCGGACACACAGAAAGCGGCGGCTACAACCTTGCCGTG
TCATACTCCGGCAACGGCAGGCACATCCTTGTCATCACATTGGGTTTCGGAATCGGCGGAA
40 ACACGCGCATCAGACAACAGCAAGCTGCTGAACCTGGGCATTGCAGGCCTTCGATACGCC
AAAATATATCCGAAAGGCAAAACCGTTGCCCAAATCCAAATTTCCGGAGGCAGCAAAAA
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ATGGCAGAACAAATCTAGAAACCATACAGCCGATTTCCCGCCCAAGTAAAAAAGGGCAA
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45 GCACTGGAATGTAAAAAAGAGCCGGTGGCAAAGGCTTTGGGCGTGTCTGACAGGG
CAGTAATCTGCCGTTTCAAATATCCGTTTTCACAAATAAAGAAATGCCGTCTGAAA
CACGGTTCAGACGGCATAAAACAACAGGGCGGTACGTATTGCATACGCGCGCCCTGCTG
CTGAAATCAATTAGCGTTTCTTACCGGTAACGGTAGCAACAGCCAGATTTTCGTTACGTT
TCAGGGAAACGCTTCTACACCTTCAGGCAGTTTGATGTCTGACAAGTGCAGAATGTCGC
50 CGGCAACCACTTCAGCACAAATCCAATCCAAGAAAGCAGGGATGTTGGCAGGCAAAGCAA
CTACTTCAACAGAAGTGTTTAACAGAGATACGCGGCCGCTTGACGTTTGACCGCTTGGG
AATTTTCAGCGTTAACGATGTGCAGGGGAACACGGATGCGTACAAGTTGATCGGCTTTCA
CAGTTTGAAAGTCGATGTGTGAACTTCGCGGCGGAACGGGTGCATTGGAAATCACGGA
CGATAACGCTTTTGGTTTACCGTTTCAGAGACAATTAATCAACGCAGTATGGAAAGATT
55 CTTTTTCCAATGCGTAGAATACGGTTTTGTGATCCACAGCGATTGCAACAGGCTCTTGAC
CTTACCGTACAGAATGCCGGGATTGTCCTTCGCGACGAGCGGCGGCTCGCACCAG
TGCCTTGTGCTTACGAACAGAGCTTGAATTCATAAGTCATGTTAAATACTCCAAGTT
AGGTAAAATCGCCGTATCGGCCGCGACAGCTTAAGACGGCTTCGGGCTTATGGCAGCA
ACATGCTGCCTGTATCACTTCTTATTGAAAAGATATGAGACGGATTCTTCATTGCTAA
TGCGGCGGACGGTTTTCGGCCAACAGACGGCAATCGTTACCTGACGGATACGGTCGCAGT
TTTTAGCCGCTTCAGACAAAGGAATGGTATCGGTTACGACCACCTGGTCGATTTCCGGATG
AGGCGATACGGCTGACCGCTCTCCGGAATACGGCGTGGCTGGCATAGGCTAGAACAC

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5 GTTCAGCCCCCGCTCTTTCAGGGCGACGGCGGCTTTGCACAGCGTATTTGCAGTGTCAA
TCATATCGTCCACAATCAGACAGGTTCTACCTTGAATATCGCCGATGATGTTTCATGACTT
CCGCCACATTGGCTTTCGGGCGGCGTTTGTGATGATTGCCAAGTCGGCATTTCAGGGATT
TTGCCACGGCGCGGGCGCGGACGACACCGCCGATGTCCGGGCTGACGACGGTCAGATTTT
10 CAATCCGCTGTTGTTTGTATGTCGTTCAACAGAATCGGGGTGGCATAAATATTGTCCACCG
GAATATCGAAGAAACCTTGAATCTGGTCGGCATGCAATCGACAGTCAAAACACGGTCGA
TCCCTGCCGAATACAGCATATTTGCCACAGTTTGGCAGAAATCGGAACGCGGACGGAAC
GCGGACGGCGGTCTTGGCGCGCATAGCCGAAATACGGAATGGCTGTGGTAATACGACCTG
CCGAAGCAGCTTCAGTGCATCCGCCATCGTCAGGATTTCCATCAGGTTGTCTATTGGTCG
15 GCGCACAGGTCGGCTGAAGGATGAAAACATCGCGCCCGGTACGTTTCCAACAGTTCGA
CGGCAACTTCGCGCTCTGAAAACCTGGATACGGAAGCATTGCCAAAGAAATGTCCAAAT
GCCTGACAACACGTTGTGCCAATTCGGGATTGGCATTGCCTGTAAATACCATCAAACGT
CGTACGCAGCCATATTCTCACCTGATTTTATGTTTAACTTCCGCTCAGAAAACACAATGC
TTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 82>:

GNMCB20F gnm_82

20 GCAGGTCGACTCTAGAGGATCCCCAGCAAATGGGGCAAGGTTCAAATAGGAACACCATCT
GCAGATTTTGGCATTATCACTTTAGATAGTGGCGATGGATATGCCGTTTCATGCCATCAT
CCCGAAATTTTACGCTAATCCTAAAAGAAGAAGGATTGGATGAAGATTTCAAATCGGT
ATCGAAGGGCGCTCTCATCGCGATTGTGATGCTGAAGAACCAGTTATCCATATCGAA
GATAAACGCACCATTTGAAACCCCATGAAAACCTGCTGCCGTTTAAATCATCTACTGATGAT
TACTTAGGCAAATGTGCCCGTCCCTCCCTTTTCAGACGACCTTTCATTGCGGAAACCGCC
25 GCAAAGGTTGTCTGAAAACCGTTTCCATCCCGTTTTACAAACAACCGAAAGCCCCAC
ATGATCTCTTTGAAAACGACACTTTCCTCCGCGCCCTGCTCAAACAACCTGTGGAATAC
ACGCCGATTTGGATGATGCCCGAGGCGGGCGTTATCTGCCCGAATACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 83>:

gnm_83

30 CGGCGAAGCGCGCCGCGAAATCGCCGACTTTTAAATTGATGCCGCGCCTTCAGGCGAAA
AATGGGTCTTGAACGGAAGCCGGTAATGTGTCTATCCGAAATGTTCCAATTTGAGC
AGATCAAACAGGGTTCTTATGTGCGTTTCGACGGTTTTAATTCTGTTTCGTAGTCATTTACG
GCTTCAGGCTTTTGATTAATTTTTTAAAGACATGGGCAAGGTTGGGATTGATTGATGGT
TATTGATTTTTGGTTTCTCTCGGTTTCTTCTGGCTTTGTCTGTCGCTTTGATATTTAA
35 ATGACGTGTTTTAAATCAGGCTTTCAAACAACCTTTGAAAGGCAGAACAATGAACAAA
CCGTTTATCACGCAGGCGCAGTTGGCAGCTTTATAAATATCAGCCGTCAAGCAAGTATTAT
GGTAAACAATGGCATATACTTTCGCTAGTGAGCTTTTGGATTATTCAAAGTTAATAAA
TTTATAATTCATGAAGAAATCCAATGTTTTTAAATAGAAGGATTTCTAATAATATTTGG
AAAATTTATTTTTCTGATGAGTCTGTTCGTATATAAAAAATTTAGAATTACAGGATGAT
40 TATAGTCGTGGAATTGAAATTAACCGTTTGATTTTAAATCCTAATGTTGGGGATGTTTT
GGTTAATTCCTATGCTGAACGTTTTAAGTATCCTATTGGAAATTCAGATGTTAGATTGGA
TATTGATCATAAAAAATCTGTAGTTACCGATTTTCGTGTTGATGGTCAGCGTTTTTCAGG
TCGAATTATCGAACCTTCAATAATAGAACACGTGCCAACAGGTGCACGCTCTCTTGAAAA
AGTCCCGTTAAATTTACCGCATCAGTTTCCCGCGCCGCGTCTTGTGAGGAGTCGGCAA
45 ACTTGCCCGCTTAGGCGCGAAATTAAGCACAAGGGCAGTTCCTTATGTGCGAACAGCCCT
TTTAGCCCATGACGTATACGAACTTTCAAAGAAGACATACAGGCACAAGGCTACCAATA
CGACCCCGAAACCGACAAATTTGTAAAGGCTACGAATATAGTAATTGCCTTTGGTACGA
AGACAAAAGAGTATTAATAGAACCTATGGCTGCTACGGCGTTGACAGTTCGATTATGCG
CCTTATGTCGATGACAGCAGATTTCCCGAAGTCAAAGAATTGATGGAAAGCCAAATGTA
50 TAGGCTGGCACGTCCGTTTTTGAATTGGCATAAAGAAGAACTGAATAAATTAAGTCTTT

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GGATTGGAATAATTTTGTTTTAAATCGTTGCACATTTAATTGGAATGGCGGAGATTGTTT
GGTCAATAAAGGTGATGATTTTCAAGAAATGGGGCTGATTTTCCCTTATTTCGCAATTCAAA
ATACAAAGAAGAAATGGATGCCAAAAGCTGGAAGAGATTTATCGTTGAAAGTCGATGC
CAATCCCCGACAAATACATAAAGGCAACCGGTTATCCCGGTTATTCCGAAAAAGTAGAAGT
5 CGCACCCCGGAACAAAAGTGAATATGGGTCCCGTCACGGACAGGAACGGGAATCCCGTTCA
GGTTGTCGCAACATTCGGCAGGGATTTCGAAGGCAACACCACGGTGGATGTTCAAGTAAT
CCCGCGTCCCGACTTGACCCCCGGAAGCGCGGAAGCACCAGCACAGCCGCTGCCCGA
AGTATCGCCCGCCGAAAACCCCGCAACAACCCGAACCCCAATGAGAACCCCGGCACGAG
10 CCCCATCCCGAACCCGACCCCGATTGAATCCCGATGCAAAATCCCGATACGGACGGACA
GCCCGGCACAAGACCCGATTCCCCCGCGTTCCGGGACGCACAAACGGCAGGGACGGCAA
AGACGGAAAGGACGGCAAGATGGCGGCCCTTTTGTGCAAAATCTTCCCCGACATTTCTCGC
TTGCGACAGGCTGCCCGAGTCCAATCCGGCAGAAGATTTAAATCTGCCGTCTGAAACCGT
CAATGTAGAGTTTCAGAAATCAGGAATCTTTCAAGATTCCGCACAGTGTCCCGCACCTGT
CACTTTTACAGTGTGCTTGATTCAAGCAGGCAGTTTCGCGTTTTCAGCTTTGAGAACGC
15 ATGTACCATAGCCGAACGGCTAAGGTACATGCTTCTCGCCCTTGCTTGGGCGGTTGCCGC
CTTTTTTTGTATCCGCACAGTATCTCGTGAAGTCTAGCAGGCGCAGCACCCGCGGGCTTC
AGTAACTTGTACCAAGGCAGGGGAGGACGTCCAGAAAGATTTGTAAAGACGGCTTTATC
GTCTTTATAAATCTTTTGGATACCCCTTGCCGCCCCGCCAAAAGAACACATTTCTGCCGC
AAGGGCAGGTGGTAAGGCGCGCGCCTTTTGCGCCGTCCCCATGCCCCCGCGCGCTCGCAA
20 GTGAGACTAGGGGTGTGGGGGACTAGTCCCCCGCAAGCGTTTTCAGCTTCGGAACCTTTG
GCCGAAGGCAGGCGAAGCAGCGCACTTTGCGACGAATGTGCAAAATAGCCGAGAAGCGC
GGGGGGATTGGCGATAAGCGCGAGGGGGTGTCCCCACAGCGCCGCGCGCGCAATGC
GGCGCAAAATCTTTCAGATTAAGAAACATTTGTTTAAATGAGGCAACCGTGCCTTTTAAAG
AAGGGATAGCAATGAAATTGTTGGCCGATTGATTCCGCTTTTGTAGAGCTGGCAGGC
25 CGTATATTGACTGCATTAGGCTTGATGGCGGTAACCTATTCAGGGGTGGATAGATTGGTA
GCCCATTTTCAGCAGGCGATAACCAATAGCATAACGGGCGCGCCTCAAGCGATGTTGCAG
CTTTTTTATATAAGCGGCGGTGGAACCGTTCTTAATATCCTGTTTGGCGCGATCGCCTTT
ATTCTGTCTATCAAACAAATGACAAAACCTAGCAACCTCAATCGGGAAGAAAAATAAATG
GCAGACATCTGTTGATAACCGGCACGCGCGTTTCAGGGAAAACATTAAAAATGGTTTCC
30 ATGATGGCGAATGATGAAATGTTTAAAGCTGATGAAAACGGCATAACGCCGTAAAGTATTT
ACGAACATAAAAGGCTTGAATAACCGCACACCTACATAGAAACGGACGCAAAAAGCTG
CCGAAATCGACAGATGAGCAGCTTTCGGCGCATGATATGTACGAATGGATAAAGAAGCCC
GAAAATATCGGGTCTATTGTCTATTGTAGATGAAGCTCAAGACGTATGGCCGCGACGCTCG
GCAGGTTCAAAAATCCCTGAAAATGTCCAATGGCTGAATACGCACAGACATCAGGGCATT
35 GATATATTTGTTTGAATCAAGTCTTCAAGCTTCTAGATCAAAATCTTAGAACGCTTGTA
CGGAAACATTACCATCGCTTCAACAAGATGGGTATGCGTACGCTTTTAGAATGGAAA
ATATGCGCGGACGATCCCGTAAAAATGGCATCAAGCGCATTCTCCAGTATCTATACACTG
GATAAAAAGTTTATGACTTGTACGAATCAGCGGAAGTTTATACCGTAAATAAGGTCAAG
CGGTCAAAGTGGTTTTTACACTCTGCCAGTAATAGTATTGCTGATTCCCGTGTGTCGGC
40 CTGTCTTATAAAATGTTGAGCAGTTACGGAAAAAACAGGAAGAACCCGACGACACAAGAA
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CCGATTTATAACGGTGTAAGGCAGGTAAGAACCCTTGAATATATAGCAGGCTGTATAGAA
GGCGGAAGAACCGGATGCGCCTGCTATTGCGATCAAGGGACGGCATTGAAAGAAGTGACG
45 GAGTTGATGTGCAAGGACTATGTA AAAACGGCTTGCCGTTTAAACCATACAAAGAAGAA
AGCCAAGGGCAGGAAGTTTCAGCAAAGCGCGCAGCAACATTTCGACAGGGCGCAAGTTGCC
ACATTGGGCGGAAAAACCGTAGCAGAACCTAATGTACGATAATTGGGAAGAACGCGGAA
CCGTTTGAAGGAATCGGCGGGGGCGTGGTTCGGATCGGCAAACTGAAGAAAACGGCAAGAG
AGAAAAAGACCCGTAAACCGTTTGAATATAGACGGTTTACGGGTCTTTGTTTCGCGCAA
50 AGCAAGGGCTAAGGCAGTCAGGCAGCAAAATCCCGCAATGTATTAACAGACGCGTAGAA
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TGGATTAAACAGTTTAGATTGTGGATAAAGGGAAACAGAATCAGAAAAGTCTATATCGG
55 CATGGAGGCAACAGGCATCTATTACGAAAAGGCAGCAGATATGCTTTCTTCTACTATAC
TGTTTACGTTATTAATCCCTTAAAAATCAAGGACTACGGAAAAAGCAGGTTTAAACCGTAC
CAAAACCGACAAAGCAGATTCAAACCTGATAGCAGACTACATAAAAAGGCATCAAGATAC

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CATAAGGAACATACATCAAGACTTGATAGATACCATACAGGACAAGATGGAACAGGTAAA
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5 AACCATCCCAGCATAGGCAAGACACCGCATCAGTTCTTTATGCGCAACTGACAGAAAA
ACATTTTAAAACCGCAAAACAGTTTGTATCCTATGCCGGATTAAATCCCGCCATCATACA
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10 ACTGGCGAAGCTCGCCTATTACATTGTTAAAACCGGCCAGCCTTACGATGCGGAAAGACA
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15 CGAAAAGTGGTGGGAATGACGTTTTCAGTTGCTGCGGTTATTGTGAGTTTCGGTTATGTT
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20 ATGACGGAAGTGGCGGGAATGACGGAAGTGGCGGGAATGACGGAAGTGGCGGGAATG
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25 TCGCTCGACCCGATAGACGCGCCGTGCAAAACATTTGCGCGTTGGCATTGCCGGAAGAA
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CCCCAGTAGTTCCGGGCGGCTTTGCGGACATCGTGCAGGCCTTTCCGTCCGCCGTGCGCA
TACCAATCGAGAATAGTGCGGTTGTAGCCGGGTTCTGTTGAGCCGTTTTCTGCGTGGCG
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30 CAATAGGCGTTGGCGGCAAACAGGAAACATTGGTTACCGGTTGTTTTAATTCGCCCGCC
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35 GCCGCTTGAGTGCCGGCGAGTGCCGCGCCGAGGAAAAATAACCGGACATACTTCATAAAG
CCTCCTGACAGGCGGTTAAAATCAATCTTCCGAAAGGAAAGATTGGTTGTTAAAAACCA
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40 AGGGTTTTCTGCACCTTCTACTTTCAATTGACCCAGTGCGCCTTTGTTGAATGCGCGGAA
GATAGAGTGGTCAACCAAAGTGTAGCTGCCCGGGATGTCGACTTTGAATTCGACGATGGC
AGAGCCGCCGGCAGGAACGATGGTGCTTTGTACGTTTTCGTTAATCAGTTTGCCGCCTTC
AACATAAATCTTGTGCAAGATTTCCCGGATGACGTGGAAGGAAGATACCAAGTTCCGGACC
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45 GCGGATAGCACCTACGTGACCGTTGAATACGACGTATTACAGGCTGTTCCGCAACGGCTTT
GTCCATATCGAACGGTTGCAGACCTTGCAGCCTTTTTTGCCTTTGGTGTAGAAGTCGCC
TTGGACGATGTAGAATCTTTATCCACTTTCCGCGAGGCTTCTTTAGGCTCGACCAAAT
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GTACAGACCCGGTTGCAGGGCTTTGAAGCTGAATGTGGAAGTACGCCCCGGAGCGGTAAA
50 GGTTGCCGCCGCGCCGCCGCTGGCCGGTAGCCCGGTGGAAGTCGACGTTGTGCGGAAC
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CATACGGCCCCGGAACGTCCCGTCAAATGTCCAGTAGCGGTATTCCACACCGTCTTCCAT
GGTCATGGTTTTTTCGACGGTTTCCATTTTACGCGGACTTTGGCGGGGTAGTCGCGGTC
GATTGCAGGAGGCACTTCGGGAGCGTGGGTGGTAACCGCATCGATAACGGGCAGTTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 84>:

gnm_84

```

5  GTCGACTCTAGAGGATCCCCGCGGATTTATTACGATATTACCGTATTACGGCCGCACCG
   ATGCCGCCTGCCCCCGAAAACTTTGGAGAATCCAAAAATGTTTCATTTTGCATTTCC
   GGCACAACTGCCCTGCGCCAAGCGATAACCGATGCCTACCGCCGTAATGAAATCGAAGC
   CGTACAGGATATGTTGCAACGTGCACAGATGAGCGACGAAGAGCGCAACGCCGCCCTCCGA
   GCTTGCCCGCGGTTTGGTTACCCAAGTCCGCGCCGGCCGCACCAAAGCCGGCGGCGTGGA
   TGCCTGATGACGAGTTTTCACCTCCAGCGAAGAAGGCATCGCGCTGATGTGTCTGGC
10 AGAAGCCCTGCTGCGTATCCCCGCAACGCCACGCGGACCGCCTGATTGCCGACAAGAT
   TTCAGACGGCAACTGGAAAAGCCATTTGAACAACAGCCCTTCCCTCTTCGTCAATGCTGC
   CGCCTGGGGCCTGCTGATTACCGGCAACTGACCGCCACAAACGACAAACAAATGAGTTC
   CGCACTCAGCCGCCTGATCAGCAAAGCGGCGCACCGCTCATCCGCCAAGGCGTAAATTA
   CGCATGCGGCTTCTGGGCAACAGTTCGTAACCGGACAGACCATTGAAGAAGCCCTGCA
15 AAACGGCAAAGAACGCGAAAAAATGGGCTACCGCTTCTCCTTCGATATGTTGGGCGAAGC
   CGCCTACACCAAGCCGATGCCGACCGCTACTACCGCGACTATGTGCAAGCCATCCACGC
   CATCGGCAAGATGCGCGAGGACAAGGCGTTTACGAAGGTAACGGTATTTCCGTCAAAC
   TTCCGCCATCCATCCGCGCTACTCGCGCACCCAACACGCGCGTGATGGGCGAACTGTT
   GCCGCGCCTGAAAGAGCTGTTCTTTTGGGTAAAAAATACGATATCGGTATCAACATCGA
20 TGCCGAAGAAGCCAACCGTCTGGAGCTGTCTTTGGATTGATGGAGGCTTTGGTTTCAGA
   CCTGACTTGGCTGCTACAAAGGTATCGGTTTTCGTTGTCCAAGCCTACCAAAAACGTTG
   TCCGTTTCGTTATCGACTACCTGATCGACCTTGCCCGCCGCAACAACCAAACTAATGAT
   CCGCCTCGTCAAAGGCGCGTATTGGGACAGCGAAATCAAATGGGCGCAAGTGGACGGCTT
   GAACGGCTATCCGACCTACACCCGCAAAGTCCACACCGACATCTCCTACCTCGCCTGCGC
25 GCGCAAACGTGCTTCCGCGCAAGACGCGGTATTCCCGCAATTTGCCACCCACAACGCCTA
   CACTTTGGGCGCAATCTACCAAATGGGTAAAGGCAAAGATTTGAACACCAATGCCTGCA
   CGGTATGGGCGAAACCTGTACGACCAAGTCGTGCGCCCGCAAACTTAGGCCGCGCGT
   GCGCGTGACGCCCCAGTCGGCACACAGAAACCTGCTCGCCTACTTGGTGGCGCCGCT
   GTTGGAAAACGGCGCAACTCGTCTTTCGTCAACCAATCGTCGATGAAAACATCAGCAT
30 CGACACGCTCATCCGACGCCCCTTCGACACCATCGCCGAACAAGGCATCCACCTGCACAA
   CGCCCTGCCGCTGCCGCGCGATTTGTACGGCAAATGCCGTCTGAACTCGCAAGGCGTGGA
   CTTGAGCAACGAAAACGTATTGACGAGCTTCAAGAACAGATGAACAAAGCCGCGCGCA
   AGACTTCCACGCCGCATCCATCGTCAACGGCAAAGCCCGCGATGTGCGGGAAGCGCAACC
   GATTAAAAACCTGCCGACCAGACGACATCGTCGGCACAGTCAGCTTTGCCGATGCCGC
35 GCTTGCCCAAGAAGCGGTTGGCGCAGCCGTTGCCGCGTTCCCCGAATGGAGTGCGACACC
   TGCCGCGCAACGCGCCGCTGCCTGCGCCGTTTTGCCGATTTGCTGGAGCAGCACACCCC
   AGCACTGATGATGCTTGCCGTGCGGGAAGCAGGCAAAACGCTGAACAACGCCATTGCCGA
   AGTGCGCGAAGCCGTCGATTTCTGCCGCTACTACGCAAACGAAGCCGAACATACCCTGCC
   TCAAGACGCAAAAGCCGTCGGCGCGATTGTGCGCCATCAGCCCGTGGAACCTCCCGCTCGC
40 CATCTTTACCGGCGAAGTCGTTTCCGCATTGGCGGCAGGCAACACCGTCATCGCCAAACC
   CGCCGAACAAACAGCCTGATTGCCGTTATGCCGTTTCCCTCATGCACGAAGCCGGCAT
   CCCGACTTCCGCCCTGCAACTCGTCTCGGCGCAGGCGACGTGGGTGCGGCATTGACCAA
   CGATGCCCGCATCGGCGGCGTGATTTTACCGGCTCGACCGAAGTGGCGCGCCTGATCAA
   CAAAGCCCTTGCCAAACGCGGCGACAATCCCGTCTTGATTGCCGAACCGGCGGACAAAA
45 CGCCATGATTGTCGATTCCACCGCACTTGCCGAGCAAGTCTGCGCCGACGTATTGAACTC
   CGCCTTCGACAGCGCGGACAACGCTGCTCCGCCCTGCGCATTTTGTGCGTCCAAGAAGA
   CGTTGCCGACCGTATGCTCGACATGATCAAAGGCGCTATGGACGAACCTCGTCGTCGGCAA
   ACCGATTAGCTCACTACCGATGTCGGCCCCGTATCGATGCCGAAGCACAGCAAAACCT
   GTTGAACCACATCAACAAAATGAAAGGTGTTGCCAAGTCTACCACGAAGTCAAAACCGC
50 CGCCGATGTCGATTCCAAAAATCCACGTTTCGTTTCGCCCATCCTGTTTGAATTGAACAA
   CCTCAACGAAGTGAACGCGAAGTCTTCGGTCCCGTCTGACGTCGTCGCTACCGCGC
   CGACGAATCGACAACGTATCGACCAATCAACAGCAAAGGCTACGCCCTGACCCACGG
   CGTACACAGCCGCATCGAAGGCAGGTACGCCACATCCGACGCCGATCGAAGCCGGCAA
   CGTTTACGTCAACCGCAACATCGTCGGCGCAGTCGTGCGCGTACAGCCCTTCGGCGGACA

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CGGTCTGTCCGGCACAGGCCCCAAAGCAGGCGGTTGTTCTACCTGCAAAAACTGACCCG
CGCCGGCGAATGGGTTGCCCGACCTGAGCCAAATCGGACAGGCGGACGAAGCCGCACT
CAAACGCCCTCGAAGCACTGGTTCACAACTACCGTTCAACGCCGAAGAGAAAAAGCCGC
5 AGCGGCCGCTTTGGGACACGCCCGCATCCGCACCCTGCGCCGTGCCGAAACCGTCCTTAC
CGGACCGACCGGCGAGCGCAACAGCATCTCATGGCAGCGGCCAAACGCGTTTGGATACA
CGGCGGCAGCACGGTTCAAGCCTTTGCCGCACTGACCGAACTTGCCGCCCTCCGGCATACA
GGCAGTGGTTCGAACCCGACAGCCCCTTGGCTTCTTACACTGCCGACTTGGAAGGTCTGCT
GCTGGTCAACGGCAAACCCGAAACCGCGGCATCAGCCACGTTGCCGCCCTGTGCGCTTT
GGACAGCGCGCGCAAACAGGAAGTTGCCGCCACGACGGCGCACTCATCCGCATCCTCCC
10 TTCGGAACCGGACTCGACATCCTGCAAGTGTGTAAGAAATCTTTCAGCGTCAACAC
CACAGCCGCCGGCGGCAACGCCAGCCTGATGGCGGTGCGCGACTGATTTTGCCGAAATAC
CCGGCGCGGCCCGTGAACCAATGCCGTCTGAAAACCTTTCAGACGGCATTTTTATAATG
GATTAACAAAAATCAGGACAGGCGAGCGAAGCCGACAGTACAGATAGTACGGAAACCG
ATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACG
15 CCGTACTGGTTTTTGTTCATCCACTATAACAGCAACCCTGTGCGCGTCATTCCCGCAAAA
GCGGGAATCCAGTCCGTTTCACTTTCGTCATTTCGATAAATTCCTGTTGCTTTTCATTT
CTAGATTCCCACTTTTCGTGGGAATGACGGCGGAAGGGTTTTGTTTTTCCGATAAATCT
TGAGGCATTGAAATTCAGATTCCCGCCTGCGCGGGAATGACGATTATAAGTTTCCCGA
AATCCAACATAACCG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 85>:

gnm_85

TTTGCGGATCAACCCGCCCGGTAGCCGGTCAGTTTGCCGTGCTGCCGATGACGCGGTG
GCAGGGAATCAGGATAGATACTTTGTTTGCCCGTTGGCGGCGGCAACGGCGCGGACGGC
25 TTTGGGGTTGCCCAAACGCTGCGCCTGCTCCTTGTAGCTGCGCGTTTCGCCGTAAGGAAT
CGCCAAGAGCGCGTCCCATGCCTGCTTTTGAACTCGGTGCCAATCTGCTCCAAAGGCGT
GGCAAAGGTTTTTCAGACGACCCTTGAAGTATAAGTCCAATTCCTGCCGCAAAAGTTGCGT
CCGCTCATCCTCCGAAACACAAACCGTCCGCGCAAGGCTTTTTGACGCGCGCAATTTT
CTGTTCCAAATGCTTCTGTCCGACAAATCCAGCAAACACAAACCCCTGCTACCGAACAC
30 CGCCAGCATCTCGCCAAAGGCGTGGCAATGGCGGCACACACCAGCTCGTTCAAACGTGTC
GGGATAACGCGCTTCCAACAGACGGATGGCGCGCGGATGCGGACATATTCTTCAGGCGC
GCAGCCGATATTGTCCCAAAATCCCGCTCGAACTGTTTGGCTTCGCATTCCGTCAGATT
GGGATGCGGCATAACGCCGCACTAAAAACCCGAGATTCGAGCCAATGGCGGATTTTCATC
CCATTTTGACGGAGATTGTTTAAGGAAGGCAAGGTAATCATTTGTTTGTCTCCGTATCCC
35 TATCATAGATTTGACGGCAAAATCCCCAATTTTTGCCATTCCCGCACGCCCGAGCAGGAA
CGGGCTATGACGTAATCTTGAGGGTTAGGTTGCGGCAATACCTAAATATTCGATATTTT
TAAAGCATCAGAGAAAGGAATGTTTCAACACACAGGACGACACATAAAGCGCCGCCCAT
GAAAAATTTTCAGACGACCTGCAAAGGTCGTCTGAAACCACGATTTTTCATTTGCGCAT
TCTGGCACATCATCAACCGTTTCGGCACATTCTTGCCGCCGTTGACAGCCTATAATGAA
40 TCCACTTATTCATCAAGCAAAGGAATCATCTATGCAAACCCCTCATCTCTCCGCCGTACT
GCTGGCTTTTTCAACCGCTGCCTTTGCCGGGGCGCATTCACGCTGCAATTCGACAACCC
GTCCGAAGACGGCGGCTTCACGCAAAACAGCTTTTGAGCGCGCCTTACGGCTTTTGCTG
TTCAGGCGACAATGCTTCGCCCGCGCTGTCTGGAAAAATCCGCCGCCGGGACAAAAGT
TTCGTCTTGACCGTTTACGATAAAGACGCGCGGACCGGACTGGGCTGGATGCACCGGGTG
45 GTCGCCGACATTCCCGCCGATGTCCACCGCCGCAACGCGACCTCGCTGCAATTAAGCCGC
TGCGCCAACATCGCCGACCGGACTGGGCTGGATGCACTGGGTGGTCGCCGACATTCCCGC
CGATGTCCGCCGCCGCAACGCGGCTCGCTGCAATTAAGCCGCTGCGCCAACATCGCCGA
CGACCATCCGACCCGATATCGGCGGTAATCAGTTTGCGGATTGCGCGCATCAGGTTGAC
GCCTTCGTACACGGCAAAACCGATGCCGTCTGTGCAACCACGCCAACACGCGCAAG
50 CGCGGCCCTCCGACGATTGTGCGGCACTTCTTCATCCGCCAGTACCGCAGCCTCATAATC
AAACGCCGCGCCATACGCCCGGAATACGGCAGCTTTACCGCATCGCACACTGCCTGCGC
CGTCCCGTATTGTGCGGCGAACCTTTCTACGGTTTCTGTTGAAAGCAATCCATTGCGC
CTGATAGAGGCCGTCTGAATCGGGAATATTGATGACGTCAAACGTCTGTCCGCCTGCCAA

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GGCGACCGCCTTACCCGCCGCGAGCTTCTTACTTCCGCGCCGACGATAAGCACAGCCGGT
TCATATACCGCCACGCTGCGGTACAAGGCGGTATGATGTTGCACGATGCCGCCTAAAGCA
CCCAATCGTTCGCGCGTATGAAAGTATAGTGGATTAAATTTAAATCAGGACAAGGCGACG
5 AAGCCGCGAGACAGTACAAATCGTACGGCAAGGCAAGGCAACGCCGTACTGGTTTAAATTT
AATCCACTATATCTCAAACCCACGTTAGGTCTAAGCAAATGGTCGGACATCCTTATCCGA
CAGCCCATCTTCTTTTTCAGACGGCATTGCAAATTTAAGTTTGACGTGCGTTCAAAATAAG
GCAGTTAATGCGAAGCGAAATTCGTCGGCGTACCTGCAACTTGGCCCTCCCTATAGG
GGAGGGTCGGAGGGAGGGTAAAACGGGGCAGATACAGACAATATTTCCGTTGCCGCCCG
10 ATGCCCTCTCCCTAACCTCTCCACGGGAGAGGGAATGGATTGCCGTTGAAATAAATCG
CTCTACATAAAAAATCAATGTGTTATCTCAAACCCACATTAGGTCTAATCAAATGGTCGG
ATATCCATATTCGGCAAGCAAGCTGCTTTTCAGACGGCATTTCAGCCAACAAGCGCGCCA
ATATCCCCTCATACACCGCAGACAGCTTCGGAATGTCGTTTAGCCGCACGTTTTCGTTGA
TTTGGTGGATGGTCGCATTGGACGGGCTAATTCGATAAGTCTTTCGCAATGGCTTTGA
TGAAGCGTCCGTCGGAAGTGCCGCCGGTGGTGGACAATTTCGCCCTCAATGCCGACGGTTT
15 CGGCAATGGCTGCGCGTGCCACGTCGGTCAGTTTGCCCGCTTGGGTGAGAAAGGGCTGCC
CCGAACACGACCACTGCAAATCGTATTGCACGCCGTGTTGTCCAAATGGCGTGGACGC
GTTGTTTCAGCCCTGCTTCGGTGGACTCGGTGGAGAAGCGGAAATTGAATTTGACGTTCA
GCTCGCCCGGAATGACGTTGGTTCGCGCCTGTGCCGCCGTTGATATTGGAAATTTGAAAGC
TGGTTGGCGGGAATATTCGTTGCCTTCATCCCAGACTTCCTGCGTCAGCTCTAACAAGG
20 CCGGGGCAAAAGTATGCACGGGATTGATTGCCAAATGCGGATAGGCAATATGGCCTTGCT
TGCCCTTTCAGCGTCAGGTTCGCCGACAGCGAGCCGCGCGACCGTTTTTAATCATATCGC
CCAATTTGTCCACGGCGGTTCGGTTCCGCCGACGATGCAGTAGTCGATAAGCTCGTCGCGCG
CTTTCAATACATCGACGACTTTGGTCGTGCCGTCCAACGCGTCGCCCTCTTCGTCGGAAG
TAATCAGAAGCGCAATGCTGCCTTGGTGGTTGGGATGTTTGGCAACGAAGCGTTCGCAGG
25 CGGTAACGAAACAGGCAATGCTGTTTTCATGTCTGCCGCGCCGCGCCCGTATAATCTTC
CGTCGCGCTCGGCCGGTTCGAACGGGGGGAATCCCATTTTTCGACAGGACCTGTTCGGTA
CAACGTCGGTATGCCCTGCAAAACAGACGACGGGAGCTTTCGTGCCGCGTCGCAACCAGA
TGTTTTTGGTGTCGCCGAAATGGAGTCTTCAGCCGCAAAACCGATTTTGTGCAGGCGTT
CGGCAAGGAGTTTTTGGCAATCCCTGTCGTCAGGGGTAACGGATGGTCGGGAAATCAGCT
30 CTTTGGCAAGCTCTAGGGATTGAGTTTCGGTCATATTTGTTCACTTTTGAAATTAGACCG
TCTGAAACGTTCTGAATGTGATTTTCAGACGGCATTAGGTTAGGTTGGCATAACGGGGTG
GGTATTTTACCCATCAGTCTTCTGAATCATTTGCCGTGGCAGGCTTCGTAAGCGGCAGC
AAATCTTCCACCGTTTCCGCTATCCATTTTCGCGACATCCTGCCTGCCCAATCGTCGCGT
TCGATGTGTTTGGCGATGCAGAAAAGTCTTCGTCGTTTTCGAACTTTTCGGTCGGACTCG
35 TTTGTTTGGTGTCGCCGAAATGGAGTCTTCAGCCGCAAAACCGATTTTGTGCAGGCGTT
AAAGAAGCGTATTTTTCGGTATCAAATATCCAACAGCGGTTGTAATCAGGCAGCGCG
ATGGGGGAAACATCGGCTTTATAGCAGTGCCAATCCAAGCTGACGCTCAGACGGCGGGCGG
TTGAGCAGTATCGACAAAATCGCTGCGGAATTTTATATTGTTTCGTATTGAAAGTAGGCA
AAGAAATGGGCGCGAACCTGCCAGCCGTTACACCAGCGTTCGATGTGCGGCGGCGCAAC
40 GGCGCACCCAATTCGGCGGCAACCTGCTGAATCAGCTGCTGCCATATCTGCCAGTTTCT
TTATAGTCAGCCTTGATTTGCGGAATGCTTTCAGGCTGGTATTTTTTAAGCTGGGAAAAT
TGGAAAACCGGATATTGAACAAATCGCAACTTTTCGGGGTCAGCATAATATATCCTTGA
GACGATTGTTTCAGACGGCATTATTTGCGCCGGCGCGCCGCATAATTTCCGCCGATTTTCG
GTCAGTTTTTCTTTTGGGATAAAGGTGTTGCCATATCAAACAGCGGCTCTTCAATCGCC
45 AAATGAACATCATATCCCGCCACAAAACGTTTGAACGCTTCCTCATCGGGGACATAAGCG
TTGTCTGCTTCGAGTTTGGCAAATTCGGCGGAAACAGCCGCCAGTTGTCGTGCAGCCCG
ATATGTTGGCGCAAAAGCTCGTCCACGCTTCTTGGGCTTGGCGGCGCATATTGCAGCAGC
AGCGGGAAGAAGTTTTCTTCTTCGTCTTCATGGTGCAGCGCGCGCAACGTTGAAATAC
TGGGCGATTTTGGCGGATGGTTTGCAAAACAATCTGATTGCAGCCGTTTTCGGCGATATAG
50 TCCGACAGCATGGCGACTTGTCCGCAAAAACGGCGCACTTTGCCGTGGCAGGCATACAGC
ATTTCAATCGGTTTCGGCAAAGGTAACGCTTTTGGTTTCAAACGGATTCATGTTTTCTGTT
TCAACGGGCACTTTTCAAGCAGTCATTTTATAATAAAACAGCCTGCACAAAGCAGGCTGT
CCGTCTTTTTCGAGCTTTAAGCGGATTAATCGACCAAAGTCACTTTGCCGTTTCATCAAAGC
ACCGTGACCTGGGAAGGTACAAGCGAATTTATATTCGCCGTTCGGCCAATTTAGCAGGATC
55 CAGAGTCAGGGAAGCTTCTTCGCCGCCCGCATCAGTTTGGTATGGGCAACAACGCGTGC
ATCATCAGGTTTTCAGATAGTCGGTATCGGCAGCACCTACGCCGTCTTTAAATACGCCGTC
CATGTCTTCAGCTTTGGCAATCACGAGATTGTGACCCATGCTGGCTTTGGGTTGCGTACC

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GGTATGTTTCAGAGTGATGGTGAACCTCTTACATGCTTTGCTGACTTGGATGTCTTTGGT
 GTTGAACGTCATATTGTCGTTGGATTGACAGTTGCCGCACAGTTGCCGGCAGCAGGGGC
 TTCGGCAGCATCTGCAGGAGCAGCTTCGGCGCAGGCGCTTCGGAAGCGGGTGCTTCAGC
 AGCAGGAGTTGCCTCGGCAGCAGGCGCGGCAGGTTCTTGAGAGCAGGCAGCCAAACCGAT
 5 AACGGCGGCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 86>:

gnm_86

CCGCAATATTCGTGAAACGTCGGTCGGCATCGATGATGTGAAAAACCCCCGCTTTTGCT
 10 GGGTTTGTCTTTTGGGTGGTTTTCTGGCACGGCTATCGTCAGAATCGGGGTGCAGGTTT
 GGATTCGGATTTCAGATTTCAGATTTCAGATTTCAGATTTCAGATTTCAGGTTTGTGTCCCATTGC
 CGCGCTTTATAGTGGAATTAACAAAAATCAGGACAAGGCGACGAAGCCGCAGACAGTACAA
 ATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCT
 AAGGTGAGGCAACGCTGTACTGGTTTAAATTTAATCCACTATATCGGTGAAACTCTGAT
 15 TTTAAGGCGGTAGGATGTGGGTTTGCCCATAGAAAGGAATCCTTTCTGTATCAAGCCCT
 GAAAGGGATAATTACATAAAATTCACGCCTTTCCCCCTCATTGGGAATGGATGGAATCG
 TGCCAGATGTGTGCGGCAGTGTATGCCGATATGGTTTTATCATCAGCCCTTTTCGGTTG
 AAACCCCGTCAGTTGCAGCGATTGAGCCTAATCGGTGGCGGAAGTTGCCGCTTTGCATTTC
 GGGGCGGCGTGCAAGTGCGGTGCTTTGATATGCCGTTTGTGTGTTGAAACAGGGTGGTCGG
 20 TGCATACGGGTACGGTATGGCCAAAGCTAAAAGTGAAATACGCTGAAACACTGAATGAGC
 CGCTTTATGTTTTGTACGGCCTTTGCTGCCCTTGCTATGATTTAAATTTGGATTTCGCCCGCC
 GGATATTTGGGATATGAAAGAATTTGACTTCATCAAACGGTATTTGCAAACAGGCACGG
 ATAATGATGTGCTATTGGGCATAGGCGACGATGCGGCGATTGTCCGCCCGCGTGAAGGCT
 TCGATTTGTGTTTCAGTGCGGATATGCTTTTTGAAGGACAGGCATTTTTTGCAGATGTCA
 25 AACCTGAAGACTTGGCTTGGAAAGTTTTGGCCGTCATATTTTCAGATATGGCGGCGATGG
 GTGCGATACCGCGTTGGGTGTTGCTGAGCGCGGCTTTGCCCGAATTGGATGAGGTATGGC
 TGAACCGGTTTTGCGGCAGCTTTTTCGGTTTTGGCAAAAAGTTTGGCGTAACGTTAATCG
 GCGGCGATACGACCAAGGGCGATATGGCGTTCAATGTAACCATATCGGCGAATTGCCGA
 AGGGTAGGGCGTTGCGGCGTGATGCGGCGGTTGCGGGCGACGATATTTGGGTGTGCGGGC
 30 GTATCGGTATGGCGGCGGCGGCTTTGAACTGCCGTCTGAAACGGTGTGTGTTGCCAGATG
 AAGTGTTCGCCGAATGCGAACAAAAGCTGCTCCATCCTGAACCAAGGGTTGGGCTGGGGC
 TTGCGCTGTTGCCGTTTGCCAGGGCGGCGCAGGATGTTTCAGACGCGCTCGCGCAAGATT
 TGGGGCATATCCTGACCGCTTCTGGCAAGGGTGCGGAAATTTGGGCGGATTGCTGCGCGT
 CTTTATCCGTATTGAAAGATATTTGCCCCGAGCGCAATGGCTGTCTTATACTTTGGCGG
 35 GCGGCGACGATTACGAGCTGGTGTTTACCGCGCGGAAAGTTGCCGACGCGCGTATTG
 ATGCGCGGAACGGTGCGGCGTACCGCATCGGCAAAATCAACGGAGGATGCC
 GTCTGAAGGTTTTAGATGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 87>:

40 **gnm_87**

CCTAGTTTCTACAGCGGCTGTATGTTGGCAATTCAGCAGCTTCTTCTGTATCTGCTGTA
 CAAATTTAATGAGGGAATAAAATGACCAACAGCTGAAATTAAGCGCATTATTCGTTGCA
 TTGCTCGCTTCCGGCACTGCTGTTGCGGGCGAGGCGTCCGTTTCAGGGTTACACCGTAAGC
 GGCCAGTCGAACGAAATCGTACGCAACAACTATGGCGAATGCTGGAAAAACGCCTACTTT
 45 GATAAAGCAAGCCAAGTTCGCGTAGAATGCGGCGATGCGGTTGCTGCCCCCGAACCCGAG
 CCAGAACCCGAACCCGACCCGCGCCTGTCGTCGTTGTGGAGCAGGCTCCGCAATATGTT
 GATGAAACCATTTCCCTGTCTGCCAAACCCCTGTTCCGGTTTCGATAAGGATTCATTGCGC
 GCCGAAGCTCAAGACAACCTGAAAGTATTGGCGCAACGCTGAGTCGAACCAATGTCCAA
 TCTGTCCGCGTCGAAGGCCATACCGACTTTATGGGTTCTGACAAATACAATCAGGCCCTG
 50 TCAGAACGCCGCGCATACGTAGTGGCAACAACTGGTCAGCAACGGCGTACCTGTTTCT

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AGAATTTCTGCTGTCGGCTTGGGCGAATCTCAAGCGCAAATGACTCAAGTTTGTGAAGCC
 GAAGTTGCCAAACTGGGTGCGAAAGTCTCTAAAGCCAAAAACGTGAGGCTCTGATTGCA
 TGTATCGAACCTGACCGCCGTGTGGATGTGAAAATCCGCAGCATCGTAACCCGTCAGGTT
 GT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 88>:

gum_88

GCCGATTGGACGCGCTCGAGCATAATGTTGCCACAAATTTTGGCGAATATCAGGAAGCT
 GCCCACATCsTTTCTGCCATGCGCCATCAGGCGGCAGAGCGTTTGAGCGGCGAAACGACC
 10 GAGCATATGCAACACCTTGCCATGAAAGGCGCGGTTTCGACATCGTCCTGTTGCCTTCG
 TCGCCGACGGCACACGGTTTGGAGCAGGTTCAATTTCAAGTTGCCGCGCAACAAAGGCAAT
 CCGCCCCGTCTGCTGAATAAAGTTGCCTCCGGCGGCGAATTTGGCGCGTATCAGCCTTGCC
 TTACAGGTTGTTGCCAGCCAATATACCCAAGTTCCACCCCTGATTTTGTGAGGTCGAT
 ACCGGTATTGGAGGGGAGTGGCTGAAATGGTCGGCAAGGCATTACGTGCGTTGGGCAGA
 15 AAACATCAGGTGCTTGCCGTTACCCACCTTCCCCAAGTCGCATCCTGCGGAGAAAACCAC
 TGGCGGGTGCGCAAGCACAGCGAGGGAGAGCAAACCGTCAGCGAAATCAGTATATTGGAT
 GAAATCCAACGGATCGAAGAGGTTGCCCGTATGTTGGGCGGAGAAGTCATTACCGATACG
 ACGCGGCAACATGCGGCAGAATTGCTGCAACTTGCCTCGAAAAATAGTTTATTTTAAAT
 CAATCAGTTAAAAATAACTAAAAATAAAGTCTAAACAATAGACAGAACTCAGATAAA
 20 TCCGTATTATCACGCTTTCTTAATCACTTGAACAAGTGATTGTGCTGCACCCGTAGCTCA
 GTTGATAGAGTATCTGGCTACGAACAGAGGGTCGGGCGTTCGAATCGCTCCGGGTGCG
 CCAGTAAGAAAATACAATATGCGCCCATCGTCTAGCGGTTAGGACATCGCCCTTTCACGG
 CGGTAACCGGGGTTGCTTCCCGTGGGCGTGCCAATTCAAAATGCCTCCGATTATATCG
 GAGGCATTTCTCATTTCTCATTTCTCATACTGAGACCTTTGCAATAACATAGG
 25 TTAATAAAATTTTATGCTCAATCTCATTTTCAAAATGCAAACTTTTCTGATTTTTCCTA
 CTTTTTGCTCAATATTAGGAAGGTTTTAGGCAATTGAAAAATTTTGGCGCATTTTATG
 CGTCAAATTTGTTAACAGACTATTTTGGCAAAGGTCTCGGATTAAACAAAATCAGGACA
 AGGCGATAGAGCGCGAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCA
 CCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTGTAAAT
 30 CCACTATATTGAGTCTCGAGAAGGGAATAAAATTAACATCCTTATATATTGAGTTCC
 TGAGAAGGGAAGATTAAACAAAATTAACGCCCTTTACTTCATACAATCAACAGGGCTTTT
 TCATTCTCTCTTATCTAACAGGGGTACAGAAACCGAAACGGCTGGCAGGGTTAAGGAA
 GTCTTCGAATGTTACGGAACATTTCATCTTGGACAGCAAAGGCAATTTGTTAGGCATTCTT
 TACTCCTTATTTGGGAAGAAAACGTTATGGGTGTTTTCGATATTTTACCGTCAGGATTG
 35 GTATGTTTATTTGAATATGATTTTCTGTGGTCGGGACGGCATGCGGCAAAGACTTAAGGG
 GTTAGATCCTTCTCTGACGATGGCGCGGATGATGGTGCGGTTGGGGTGTAGGGCGTGG
 CGCAGGCGTGTGAAAAGGGATGGGCAAGCCTAGGATTTGGGCTGCAATGGCGGCGGCG
 CAGATGGGGGCGGTGGCGAGTCCGCGGGTGCCGTGCGCGGTGTTGACGTAGGCATTAGGC
 40 AGGTATGGGCATGGGGTGTGATGCGGTAGTTTTTGTCCAGCGCGAGTTGGTGATAGGTC
 TGCCGCATGGCGCAATGTCGCCGAGTGCGCCGACTAGGGGAAGGTGGTCGGGGCTGTGCG
 CAGCGTATGGCGGCGTGCCCTTGGTGTTTTTGGGGGTTTGGGTGGCGGCAACAATGAT
 TCGGAAAGGGCGGGGTTAAGGTGTGCAATGCTTGGCGGTTTGAGGCTTCTTCGGCTTCG
 TTCCATCCGGTATGGCTGCTGTTGGGAATAAACTCGCGCCGTAGCAGTGCAGTCCGTGC
 CACGACGGGCTGATGTAGCTTTCGCCTGAAACGGCGCAACGCAGTTGTTGCGAAAACGGG
 45 GTGGACGGTGTGAGGCCGTTTGTCCGCTATTTGCCTGAGAGGCAGGGCGGCGAGGTTG
 GTTTCGGGTAGGTAGGGGCTGTTCCGACCGGTGCAGTAGATGATGTGTGGCGGTAAAT
 GTGCCGTTTGGCGTGCTTGCAATCCACTTTTCCCGCTCGTGGGAAATGTCGGTCAAGGGT
 GTGTCTTCGTGTAGTCCAATGAGCGGATGGTTGAGGAGGGTGGGACGAATGCGGGTGGA
 TTGAGCCATACGCGGTGTTGCCAGTAGAGTCCGCATGAAGGGTGGTGTATGGGACGGAC
 50 AGTGGGATACCGGCGATTTTTCGGCTTCTGCAGATGTGATGCTGCGGTAGAGGTGGTTA
 TGGTGTTTTTGCAAACCAATTCTGTGATTGCGTTGTTGTTCCGGTGGCGCTGTAATTGAGG
 TGGATGATGCCGTTGCCGCCCCAGGTTTCGGATTCGGGCAGGATGTGTCCGAGCAGGCGT
 TTGGTGTAGCCGTAGCCGGCAAGCAAAAGTTCGGTCTGTTCCGGTGTGCTGCGGCGAGATT

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TTGGCGTAGAGCAGCCCTTGGCGGTTGCCGCTGGCGGCTTGGGCGGCTTTTCGGGCTTCC
 AATACGGTAACGGAATGCCGTGTGATGCTAAGGCGTGGGCGGTTGCCGCGCCGATATG
 CCCGCGCCGATAACGAGGATGTGTTCCGGTTTTTGGCGTTCGGATGTTTGTGGAAGTGCA
 AACCAGGGTTTGTGCGGCTTGCCTTCGGTTTGGCGGATGGCTTCGGTCTGCCAGGAAATG
 5 TGGTGGAATGTTCTGTCAGGTGGTGGGTGCGTGAAGGGGGAACCAGCCAGAAGCGGACA
 TCGGGCAGGATGTGTTTCGATGAGGTTGATGCTGTGCAACTGGAGGCACTGCATTGCCTGA
 TCCAAACGGTGCTTCAGACGGCATTCCGCGTCCGAAGCATCTTGTGCGGTTTGAAAATCG
 GGAATCTGATTATCGGGGAGGCAGATAATCAGGTTGAGCGGGGGTGCCTGTTTGCAGATG
 GCTTGGTCGAGTGTGCGGATGTGCGGAATGCCGTCCCATACGAGATTGTCCATATCAATG
 10 CCGTTTTAAAGTGTGGGTTTGAATATCGGTATCGGGATAAAGCTGTTAAAATACGCGCGT
 TTGAAGGCACGCCCTGCGCCTGCCGATATTGTATGCCGAACCGAGGTGTTTTTGAATAA
 TATTCCTGTTGAAATCCGTTTGTGAAAAACCGTACCGTGTGGTTTTGACTTATGGGGA
 CGAACCTAAAAATCTGCCTGCCGAATTTTACGCGTCTATTGCCGAGTGCAGGAGTGC
 CGGACACGGCGTGGGACAGGATGTTTGCAGACCGCAAGGCGGATGTCCAAATCGCGGA
 15 TTTGCAGCCTGTGCGACAGTACGCGCTGAAAATCAGTTTTTTCAGACGGGCACGACAGCGG
 TCTTTACGATTGGGCGTATCTGCACAGACTGGCATAACGATACGATGCGATGTGGCAGGA
 ATATTTGGACAAATTGGCGGCGGCGGGCGCGTTCGGTTTTGAAGAGAAAATAAGACCGGTC
 GGATGGTAATCTGACGGGCAAAGGTATCAGAGAGGTGGTTAGAATATGGGCGGACAGAAA
 ACGCATTTTCGGATTACGTACGGTCAACGAAGATGAAAAAGCCGGCAAAGTGGCGGAAGTG
 20 TTCCACTCCGTGCGCAAAAACTACGACATTATGAACGATGTGATGTGCGCAGGGCTGCAC
 AGGGTGTGGAAGCATTTACCATCAACACGGCGCACCTGAAAAAGGCGATAAAGTGTG
 GACATTGCGGGCGGTACGGGCGATTGTGCGCGGTTGGGCGAAACGGGTGCGCAAGGAA
 GGCGAGGTTTGGCTGACCGATATTAATTCCTCTATGCTGACCGTGGGCGCGACCGTCTG
 TTGAACGAAGGCATGATTTTCCCGTATCGCTTCCGATGCGGAAAACTGCCTTTCCCC
 25 GACAATTATTTCAACTTGGTTCCGTGGCGTTCGGCTTGCAGAACATGACGCATAAAGAT
 GCCGCGCTGAAAGAGATGTACCGTGTGTTTGAACCGGGCGGCACGTTGCTGGTGTGAG
 TTTTCCAAATCTACAAACCTTTGGAAGGCGCGTATGATTTCTATTTCGTTCAAGCTGCTG
 CCGGTCATGGGCAGGCTGATTGCGAAAGATGCGGAGAGTTACCAGTATCTTGCCGAATCC
 ATCCGTATGCACCCCGATCAGGAACTTTGAAACAGATGATGCTGGATGCGGGCTTCGAC
 30 AGCGTGGATTATCACAATATGAGTGCGGGCATCGTCGCGCTGCATAAGGGCGTGAAATTT
 TAAACGGACTGGCTGTGACGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 89>:

gnm_89

35 GTAGAATTGCTAAGGAATCCTCACGATGCTTCTAACACTTTCTTTGCGTGATTTTGTCTAT
 TGTTGAAAATCTGAATCTGGATTTTCAAAGCGGCTTTACCGTATTGACCGGAGAACTGG
 CGCGGGCAAGTCCATTACTTTGGATGCGATTGGTCTGCTGTTGGGCGATAAAGCCGATTA
 CAGCCAAGTCCGCAGCGGCGCAAGAAGCGCAGTTGTGCGCGTTGTTTGATATTTCCCA
 TTTACCTGTTTTAAAGCAGAATTGTATGAACAGGGGCTTTTAAACGACGGAGAAGAAGA
 40 ACTCAGTATCCGCGCATATCGATGCCAAAGGCAAAAGCCGAGCTTTATCAACAATCA
 GGCCGCTACCTTGGCGCAACTCAAAGCCGTGCGTAGCCAGCTTATCGACATCCACGGGCA
 AAACGCCCATCATTGCTTAATCAGGAAGCCGCCAGCGCGAATTGTTGGACGCATTTGC
 GGGTAGCAGGGAGCAGGCGGAAACCGTCAGGCAGCTTTATCAAAATTGGGCCAATGCGAA
 AAAAGCCCTCCAAGAGGCGCAGGAACACGCCGATGCCGTCAATTATCGAGCGGGAGCGTCT
 45 GGAATGGCAGTTTAAACGAATTGAATCAGTTGGACATTAAACAAGGCGAGTGGGAAGCCCT
 CAGCCAAAGCCACGACAGCCTTGCCCATCTGCCGAGCTGTGTCAGGCTGCCGAAGAAGT
 CGGAAGCAAGATTGACGGCGACAACGGCATCCAACGCCATATCTATCAATGTCAAAAACT
 ATTGGCCAATCTGCAAAACATCGAGCCGCGCTTTGCCGAGAGCCTGAATATGTTGGCAAG
 CATCGAAGCCGAATTGGGCGAAATCAGTGCCAATATGCGCGATGTGGCAGGTCGACGGA
 50 CATCAATCCCAACGAACTTGCCGCACAAGAGCAGCGCATGGGCGAGCTGATGGGGATGGC
 GCGGAAATACCGGATCGAGCCTGAAGAGTTGCCTGCCAAGTTGGCAGAAATCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 90>:

GNMCD84F gnm_90

5 TCGACTCTAGAGGATCCCCGGGCGTATTCGGCGCGTGGCTTGCCACACCCAGCACCATT
GGCTTCAAAGCCAAAAATCAACACACCGTCAAAAATGCCGTCCGAACCCGTTTTTCAGAC
GGCATTTC AATTTGCCTAGTATAATGGCGCATTTTTCCAACAAGGAACCTACCATGCTGA
CCTCGGAACAAGTAAAGCCATGATTGAAGGCGTGGCAAAATGCGAACATATCGAAGTAG
AAGGCGACGGACACCATTTTTTCGCCGTCATCGTTTCATCAGAATTTGAAGGCAAGGCAC
10 GCCTCGCGCGCCACCGCCTGATTAAAGACGGACTCAAAGCCCAACTGGAAAGTAACGAAC
TGCACGCACTTTCATTTCGGTTGCCGCCACTCCGGCGGAATGGGCAGCCAAAGCACAAT
AATCGCCACACAAAAATGCCGTCTGAAACCATTTCGTTTCAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 91>:

GNMCD96F gnm_91

15 TTGCATGCCTGCAGGTCGACTCTAGAGGATCCCCGGGCGGATTTTTGCCGCGTGTTCCGCG
TCGGCGTGTCGTTTAAAGCTTCGAGGGCGTTTGCGGCGGCTTTGAGGCGGCTGCGTGTT
TCCGCCCAGACCGTCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 92>:

GNMCE20F gnm_92

CCGGGACCTTTTTTCTCCAGAAAGCCGGCAATGGGGCTGTCGGGCCGGGTGGGCATCAGC
AGCTCGATCAAGGTGTCGCCACCACGAAGGCGCGGACCCGCACACCCTGAGTTCACACG
TCTTCGTTCGGGGCCTTCGGGGCGCAGGCCGAGCGCGACATAAGGTGCGGCGCCCTGATCC
AGATCGGGGGTGGCGATGGCGACGTGGTCGAGGAGCATGGCCTCAGCTTATACCTGCTGA
25 CCAGGACGCGGCACACAAAAATGAACCGGGAACAGGTTTTTTCTGGACGCCGGCCCCGCT
CGTTACACTCTGAAGTGTGACCCTGACCGCCCTGCTCGCCCTGCTGCTCTCGTACCTCAT
CGGCGCTATTCCGGCGGCGGCGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 93>:

gnm_93

30 CTTTCGTCAACGAAAGCGCGCAAAACATCCGCCGCATCCTTGCCGAAGTGCCGATACACAT
CATCCAATTCCACGGCGACGAAGACGACGCATTCTGCCGCCAGTTCCACCGCCCTATAT
CAAAGCCATTTCGTGTTTCAGACGGCATCAGACATCCGAAACGCCGCCACGCGCTTCCCCGA
CGCTCAGGCACTGCTGTTTCGATGCCTACCATCCTTCGGAATACGGCGGCACCGGAAACCG
35 CTTTCGACTGGACGCTGCTGGCGGAATATTCGGGCAAACCGTGGGTGCTTGCCGCGGGCT
GACCCCTGAAAACGTTCGGCGAAGCCGTCCGCATCACCGGAGCGGAATCGGTCGATGTATC
CGGCGGTGTGGAAGCGTCTAAAGGCAAAAAGATGCCGCCAAAGTCGCCGCCCTTATCGC
AACCGCCAACCGCCTATCCCGTTAAAGCAACAAAAATTGCCGCCGGAATGACTTATAGTG
GATTAACAAAAACCAAGTACGGCGTTGCCTCGCCTTAGCTCAAAGAGAACGATTCTCTAAG
40 GTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTAAGTGTCTGCGGCTTCGTGCGC
TTGTCTGATTTTTGTTAATCCACTATAATCTAAAAATTTATGCTATTAAATCAGTAAT
TTCTGATGAATTTTGAAAACCTAATCCCGTCATTCCCGCGCAAGCGGGAATCCGGCTCGT
TCGGTTTTCGCTTGTTTTAAGTTTCGGGTAACCTCCACTTCGTCATTCCCGCGCAGGCGGG

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5 AATCCGGTTCATTGAATTCAGCTATTTAGAATAAATTTTGAACTCTAATCGCGTCATT
CCCACGAAAGTGGGAATCCAGGACGCAAAATCTCAAGAAACCGTTTTACCTGATAAGTTT
CCGCACTGACAGACCTAGATTCCCGCCTGCGCGGAATGACGAATCCATCCATACGGAAA
CCTGCATCCCGTCATTCCACGAAAGTGGGAATCCGGTTCGTTTCGGTTTCGCTTGTTTTA
10 AGTTTCGGGTAACCTCCACTTCGTCATTCCCACGAAAGTGGGAATCCAGTTTTTTGAGTT
TCAGTCATTTCCGATAAATTGCCTTAGCATTGAATGTCTAGATTCCCGCCTACGCGGGAA
TGACGGATTTTAGGTTGGGGGCATTTATTGAAAAAGCAGAAAACCAAAAACAGCAACCT
GAAATTCGTCATTCCCGCGCAGGCGGAATCCAATGCGTTGAGTTTCAGCTATTTAGAAT
AAATTTTGAACTCTAATCGCGTCATTCCCACGAAAGTGGGAATCTAGAAATTTAATGTT
15 GCGGCACTAGCCAAAAAACCGAAACCGAAGGACTAGATTCCCGCCTGCGCGGAATGA
CGGCTGCAGATGCCCCACGGTCTTTATAGTGGATTGAGACCTTTGCAATAACATAGGTTA
CTAAAATTTTATGCTCAATCTCATTTCAAAATGCAAACTTTTCTGATTTTCTCTACTT
TTTGCTCAATATTAGGAAGGTTTTAGGCAATTGAAAATTTTGGCGCATTTTATGCGT
CAAATTCGTTAACAGACTATTTTGGCAAAGGCTCTCGGATTAACAAAAATCAGGACAAGG
20 CGACGAAGCCGCGACAGTACAAATAGTACGGAACCGATTCATTGGTGCTTCAGCACCT
TAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTTGTAAATCCA
CTATAATATGCACAGATAATATCAACCGTTTTTAACAAAGATATTCGCCGATTTGCGT
AAAGTTTCAGCAAGAAAACTACAAACCGATCGCGCAGGAAGCGGATGTCGTCCGCCCAA
CCGGATTTGACTTTGACCCAGACCTTCAAAAATACTTTGGTATCAACAGTTTTTCCATA
25 TCCAACCGCGCTTCGGTGGAAATTTCTTCAAACGTTCTCCGCTTTACCGATTAAATTT
GCCTTTTGGCTTTCTTATCGACCAAACGGCGATATAGATGCGGTTCAAACCGTCTTCC
TCTTCAAACCTGCTCCACTTCGACGTTTCATCGCATAAGGCAATTCCTCGCCAAGTAGCGG
AACAATTTTTCACGCACGATTTGCGCGCTGG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 94>:

gnm_94

TTTTAGCTTGGTCTTAACCCGCCCTGCTTGAGTTGGGAAAGGCTTTCGACAAACACGA
TGCCCATCAGTGGTCCAACCTGCTGACGCAAAATCGCCAACAAGCCGTCGGCTCCA
30 GCGTGAACTTTTCGCCTTTTTCTGTTCAAAGCCTCGACGGTTGCATAATCTACATTGCA
GTAAAGTATGCAAGTGGCAGCGACCTTCACGATACCATTCGCTACGGGCAATATCCGCAC
CATTTCAGACGGCCTGAAGTCATAATCTTAATGCCTTTAGCACCAGAACGCATTGCAATTT
GCATTGCTCGTTTCATAGCAGCAGGAATTGAACGCGCTTTTCCAACCTGCTGGGCAATAC
CGTCAGCAATAATTTGAGCATCCAACCTCAGGACGGCGAATCTCTTCAATATTTACATGAA
35 CAGGTACACCCATCAAGACTTGCAAGTCACGTTTCAAACCTCGATATCCTCACCTTTTT
TACCGATAACCAACCCGACGAGCGGAGTGAATGGTAATGCGTGACGATTTTGCAGGGC
GTTCAATAACCACTCGACCAACCGAAGCATTTGGCCAATTTTTCAGCAGCAATAATTGCGAA
CATCGATATCCTGCTTCAAAACAGTAGAAAAGTCGGTGCTTTTAGCAAACCATTTTGAAG
CCCAGTCTTTAGTTACCGCCAGGCGAAAGCCTGTAGGGTTAATCTTTGTCCCATAGCTT
40 TTCTTAGTTACCACTGTCACATTGATATGACAAGTTTGTGTTTTCGATGCGGTTACCGC
GACCTTTGGCGCGAGCTTGAAAACGTTTCAAGCTTGGGCCTTTGTCAACAAAGATAGTTA
CCACTTTCAGTTCATCAATGTCCGCACCGTTATTGTGCTCGGCATTAGCAATAGCTGACT
CCAATACTTTTTTAATCAGCTCGGCACCTTTTTTAGGACTGAAAGCCAAAATATTCAAAG
45 CTTGGGCAACGTCTTTACCAAGCAATCAATCAGCTACCAACGAGCCTTTTGAGCAGAGA
TACGGGCAATTTTATGTTGTGCAATTTACTCTCATGATTCACCTTATTTCTTTTAGCCTT
TTTATCGGCCAAGTGGCCTTTAAAGGTACGGGTCAATGAGAATTCGCCTAATTTATGACC
AACCATATTGTGCTGATAAACACAGGCACATGGGTGCGGCCGTTGTGCACAGCAATGGT
CAGACCGATAAAATCAGGCAGAATGGTAGAACGACGAGACCGGTTTTAATCGGGCGTTT
GTCGTTGCTTGCGCGAGCAGCATCTACTTTTTTCAGCAAATGCAGGTCTACATATGGGCC
TTTTTCAATGAACGAGCCATACTAAATTAACCTTTATTTAGTAACGGCGACGAACAAT
50 CATGTTATCCGTGCGTTTGTATTACGAGTGCAGGTAGCCTTTAGCAGGAGTACCCCATGG
GCTGACCGGTTTCGCGGGCCTCGCCCGTACGGCCTTACCACCACCATGCGGGTGATCGAC
AGGGTTCATGACAACACCGTACAGTCGGACGAATACCGGCCAACGATTGGCACCGGC
TTTACCGATTTTTTTTTCAGGCTTTGCTCTTCGTTACCGACTTCACCGATGGTTGCACGGCA

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ATCTACGTTGATTTTACGGACTTCGCCAGAGCGCAGGCGGACTTGAGCGTACGCGCCTTC
 TTTAGCCAGCAATACCGCAGAAGCACCGGCAGAACGTGCAATTTGCGCACCTTTACCTGG
 TTTTCATTTTCGATACAGTGAATAGTTGTACCAACAGGAATATTGCGGATCGGCAGAGTGT
 5 ACCTACTTTGATCGCAGCTTCAGCACCGGAAACCAATACTGCACCGGCTTGAATACCACG
 AGGAGCAATAATGTAGCGACGCTCACCATCTGCATAGCACAACAGTGCGATAAATGCAGT
 ACGGTTAGGGTCATATTCGATACGCTCTACTTTTGAGGGATACCGTCTTTGTTACGTTT
 AAAATCTACGACGCGGTAATGATGTTTATGACCACCACCTTTATGACGGGTAGTAATATG
 ACCATTGTTGTTACGACCGGCAGTAGAATTTTTCTTTCCAGCAGAGGTGCATAAGGTGC
 10 ACCTTTGTACAAACCTTCTGTTACCACGCGAACCATGCCGCGACGGCTGCAGAGGTCCG
 CTTTCATTTTAACGATTGCCATTTGTTTATTCCTTATCTGCAGTGCAGCAGCGGCTTCC
 AAATCCAACCTTTGACCGGCAGCCAAGCTTACATAAGCCTTTTTAACATCGCTGCGACGA
 CCTAAAGTGCAGACAAAACGTTAACTTTACCTTTAATGGTAACAGTAGTAACGTCTGCA
 ACTTGAACGCCGAACAGCAGCTCAACAGCCGCTTAATTTACAGTTTGGTTGCATTTGCC
 15 AAAACTTTAAACGTCAATTTGGTTACGTTTTTCAGCCAATACGTTGCTTTTTTCAGAAACG
 ATAGGTGCCAAAATCACTTGAGTCAAACGTTGTGATTACATACCCATTGCTCCTCTAATT
 GTGCAACTGCATCTTTAGTGATGATTACTTTTTGTAAACGCAGCAAGCTGTAAGGATCAA
 CTTGTTGAGCTTCCAAAACCAACACGTTTGGCAAGTTGCGTGAAGCCAAGTAAACATTCT
 CGTCGAGCTGTTTGGTTACAAACAACACTTGCTCCAGACCCAGATTTTCACTTGTTCCG
 20 CAAAACTTTGGTTTTAGGAGTTTCGGCAGTCAACGCCTCAATCGCAAAACAAACGCTCGT
 CACGAGTCAATTGGGACAGAATAGTCGCCATACCGGCACGGTACATTTTGCAGTTTACTT
 TTTGAGTGAAGTTTTCGTCGGGTTTGTTCGGGAACGCGGACACCTTTACGCCACAGCG
 GAGAAGAAGCTATACCGGAACGGGCACGGCCGGTACCTTTTTGACGCCATGGTTTTTTGG
 TTGAGTGTTTTACTTCGGCACGGGTTTTTTGAGCGCGGTTACCGGAGCGGGCGTTTGCCA
 AGTAGGCATTTACCAGCTGATGAACCAACGCTTCATTGTATTGCGGGCGAACAAAGCAT
 25 CAGAAACAGACAGACTGCCTGAAACTTGTCTTTAGCGTCAATTACTTTCAATTCATTAC
 CGACCTACTTTACGCTGGGACGAACATAACATCGCTGTTGACCGCACCCGGGAACAGC
 ACCCTTAACCAACAGCAGTTGGCGTTCGCGTCAACACGGACAACCTTCCAATTTTGAAC
 AGTTGCTTTGGTGTTGCCGTATTGGCCGGCCATGCGTTTACCGGGGAACACGCGACCCGG
 30 GCTTTGCGCCATACCGATAGAGCCTGGAACACGGTGAGAACGGGAGTTACCGTGGGAAGT
 ACGTTGGGCACCGAAGTTATGACGTTTAATCGTGCCGGAGAAACCTTTACCTTTAGAGGT
 ACCGGTTACATCGACAGTTGACCGACTTCAAACATAGAAACGGTGATTTCTGCACACAGC
 TTTCAATTCAGCCAGTTTCTTCAGTCAAAGCAAACCTCAATCAAACCGCGACCGGCTTC
 AACACCTGCTTTTGCAGAGTGCCCGGCTTCGGCTTTGTTGACACGATTGGCTTTTTCTG
 35 ACCAAAGGTAACCTGAACGGCAGTATAGCCGTACAGTATCTTTGGATTTTACTTGTGTAAC
 GCGGTTGGCAGACATATCCAAACGGTTACCGGAACAGAAACACCCTGTTTCGTGGAACAC
 GCGGGTCATTACCAACT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 95>:

gnm_95

40 GGTTTTAACCTGCAAAACATCGTCCGCATTCTGCGGATTCTGCCAAACGGCGAGATAGCC
 GTAAGTATCGGCAGCCCGTGCCGCCGAGTCATCAGGCATAGTGCCGATACGGCCAGTAT
 CTTTTTCATCATGATAAATTCCCGACGGTTCGTCCAAATTCGTGTTGCATTATAAACA
 AACAGGATAAGTCCCGCCTTATCGGCTTATCCCTCCCCGAGATTGCACCGCCGGGTATG
 45 GCAAAACGATTTACGACGCGCAATCCGCATACCGCCGCTTAGCGGCAAGCCGTTGTTT
 TCAGACGGCATTGCGGCCAACCTTTGCGGCGGGCGAAAAACCTTGTCTATAATTTATCC
 CGTTTTCAAATCAGCATACGGTCGGAATGCAAAAAATATCTTTCAATTTGTTGAAGCCT
 GCAAACTCCCCGAAAAATAGGGAAACGCCGCCCGGTTGAACGGCGCGCCGCATATCCG
 ATGCCCTCCCCCGATACCTTCCGGCAAGCCAGAAATGCCCGGCAACAACATCCATCCG
 50 GCAAAAATCCGAAACAACACCCGCGGCGAGGAGTCAAACCGCCCGCAAGCATC
 CGCCATCAGAAAAACAACCGCCTCCGAGGGCTTCATCCTAAAGGGCGTATTGTTTCGATA
 ATGGTTTGGGTTATAATCCCTATCGATTCTCCACGTCGGTGAGACACTCAGCTATGGA
 AACCCCGACCAACCCCGCAACGCTCCCTGCGTCAAACAGTATCTACCTGCTGCCAA
 TTCTTTTACTATCGCCGCGCTGTTTCCGCGTTTTACGCAATACCCAATCCATGCACGG

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ACGTTATGAAACCGCCGCCATCGCGGTATTCATCTCTATGTTGCTGGACGGTATGGACGG
 GCGCGTGGCGCGGCTGACCAACAGCCAAAGCGCGTTCGGGGAGCAGCTCGACAGCCTTGC
 CGATATGGTCAGCTTCGGCGTTGCTCCCGCTCTGATTGCCACAAATGGCAGCTTTGGCA
 GTTCGGCAAAATCGGTTATTCCGTCGCCTTCATCTACTGCGCCTGCGCCGCCCTGCGCCT
 5 CGCCCTGTTCAACACACTCATCGGCAAGGTGGACAAACGCTGGTTTATCGGCGTGCCAG
 TCCGACTGCGCGCCGCGCTGATTGTGCGGCTGATTTGGGTCAACCACAGCGTCGAAAAATT
 CCCC GCCGTCCACTGGTGGGCATTGGGCATCACACTGTTTGGCGGCCTGTGATGATTGT
 CCAAAATCCCTTTTTGGAGTTTTAAAGAAATCAACATCCGAGACAAGTCCCTTTGTGCG
 10 AATGCTGCTTGGCGTCTACTGCTGCTTCTGGTCACTTGGGAACCGTCGCTCGTCCTCTT
 CCTGTTCTTTCTCGGATACAGCCTGTCCGGCTACATTATGGCGGCACGCCGATTTTGAA
 AAGTACAGAAAGCGGATTAAATGTGGCATTGGGACATTATCTTAATCCTGCTTGCCGT
 AGGCAGTGCGGCAGTTTTATTGCGCGCCTGTTTCGGCGTAGGCGGGCGGCACGCTGATTGT
 CCCTGTGCTTTTTATGGGTGCTTGATTTGCAGGGTTTGGCACAACATCCTTACGCGCAACA
 CCTCGCGCTCGGCACATCCTTCGCCGTCATGGTCTTCACCGCCTTTTCCAGTATGCTGGG
 15 GCAGCACA AAAACAGGCGGTGACTGGAAAACCGTATTTACGATGATGCCGGGTATGAT
 ATTCGGCGTATTACGGGCGCACTCTCCGCAAAATATATCCCCGCGTTCGGGCTTCAAAT
 TTTCTTCATCCTGTTTTTAACCGCGCTCGCATTCAAACACTGCATACCGACCCCTCAGAC
 GGCATCCCCGCCCGTGCCTCGGACTGCCCGGACTGACTGCGGTTTCCACACTGTTTCGGCAC
 AATGTCGAGCTGGGTGCGCATAGGCGGCGGTTCACTTTCCGTCCCTTCTTAATCCACTG
 20 CGGCTTCCCCGCCCATAAAGCCATCGGCACATCATCCGGCCTTGCTTGGCCGATTGCACT
 CTCCGGCGCAATATCGTATCTGCTCAACGGCCTGAATATTGCAGGATTGCCCGAAGGGTC
 ACTGGGCTTCCTTTACCTGCCCGCGCTCGCCGTCCTCAGCGCGGCAACCATTGCCTTTGC
 CCCGCTCGGTGTCAAACCGCCCAAACTTTCTTCTGCCAAACTCAAAAATCTTCGGC
 ATTATGTTGCTTTTGATTGCCGGAAAAATGCTGTACAACCTGCTTTAAAACACACGAAAA
 25 AACCTTTTTACCGTTTGCACAAGCAATTAATCAGGACAAAGCTGCCAGTCTCCTGTTCC
 GACAAAAGGACAGACAACCTGACCGAGACCTTTCAGAAATATACGAAAAACGACAGATAC
 CGTCTGAAACCACATTCCGACAATCGGCAGGGTTTCAGACGGCATCTGATAATTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 96>:

30 **gnm_96**

CCTTATTGTGGGAAGTATGCGGCGAAGAGGAATTTACCGCCGAAGCCATCGCCGAAGAAT
 ATTACGGCCATGCGCCGACCAAAACCGAGCTGGCGGCAACTTTGATTGCGCTTTACGCCG
 CGCCGATGATTTCTACAAAAAGCCAAAGGCGTGTTCAAAGCCGCGCCGAAGAACTT
 TAAAACAAGCACTTGCCGCCATCGAACGCAAAAAACAGCAAGACGCGCAAATCGACGCTT
 35 GGGCAGAAGCCTAAGGCGTGGACTCCGCCACCACTCAAATCAGCTCTGTAAAACCGGTC
 TGAGTCTTCTTTTCCCCGCTACTCAATAATTTATCCGCGCCTCTTTACCACCAAATTCA
 TTTACAATTTGTAAAATCGTGTGCGCTTTGAAGGTTGCGGCAAATTCAAAGCCTCCTGA
 TAAATATTTAACATGGCTTTATGAAATCTTGTTCTAACTGATTTTATCCATCATTCTT
 CTTCCAATATTTAGACCGGATTATTCTTACCCAGAATTTCTTTTCTCATCCGCTCCCGT
 40 CTGATCACCTACCGAATCAGGTGCTGTAACAGTCTGAAATCGCTTTTCAGACGACCCCT
 CAGCCTTTTTCATACCTTCGTAATAATACGACTGCTCGATACCTTTAAAGATGATTTC
 CGGTTGTCCACATCGTCAGTCAGGTTGTCTTTAACAGAAAGCGAGTTCTAAATCGTTG
 ACGGGGCTGCGTTCCATCGCCTGCAATACAGGGTTTTACTTACATTTTGCCAGTTCACG
 ACTTTTTTCAGGTTTTTTTTCAGCACCAATCCAGCCAGATGCGGGTACTTCTGCCATTA
 45 CCCTCCAAAAACGGATGGGCAATGTTCAATTCAACATATTTGGCGATGATTTCTTCAAAA
 GTCCGCTCGGGCATCTGCTCGATTTTAACCAAAGCCTCTTTAAATACATGGCGTTGGCA
 AAACGAAAACCGCCTTTGGAAATGTTGTCTTCCCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 97>:

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gnm_97

CTTGGTGTGATACCATTTCGATTCCATTTCGATGATAATTCCATTTCGATTCTATGCGATGA
TTCCATTTCCTTTCCATTAGAACGCGACACGGCGAAGGCGATATTTTGGTATTCCTGCCG
GGCGAGCGCGAAATCCGCGAAACTGCCGAAGCCCTGCGCAAAATCCACGCTGCGCCGCAAC
5 GACGAAATCCTGCCCTGTTTCGCACGCCGTGTCGCACGCCGAGCAGCACAAAATCTTCCAC
CCCTCAGGCGCGAAACGCCGCATCGTATTGGCAACCAACGTCGCCGAAACCTCGCTTACC
GTGCCGGGCATCAAAATACGTCATCGACACCGGCCTCGCGCGTGTAAACGCTATTCCGCA
CGGGCGAAAGTGGAGCAGCTTCATATCGAAAAATCTCCCAAGCCGCGCCGCCCAACGA
TCCGGCCGCTGCGGACGCGTCTCCGCAGGCGTGTGTATCCGACTGTTTTAGAAAGAT
10 TTTAACAGCCGCCCGAAATTTACCGACCCCGAAATCGTCCGCAGCAACCTCGCCGCCGTC
ATCCTGCGCATGGCAGCATTGAAACTCGGCGATGTGGCGGCATTCCCGTTTTAGAAATG
CCCGATTACGGTATATCAATGACGGTTTTAGGTGTTGTTGGAGTTGGGGCGGTGGAG
GCCGTCTGAAACAGGCAGACATAAAGAAAAATCCGCGTAGAGTGATGTAACCTACCCT
TGCTTTAATAAGTAGAAAAATGGTGGGTTTACGTCCCCCCTGCGGCTACTAAAAAATAT
15 AAGAGTAAACAACCTTTTTGAAAGAAAAATGTATGGACGAAATTCAAATACCCAAAAAAG
TGGAATTACAAACCAACTAGAAAATGAAAAGATTGTTTTATCGAAAGGTTCTACCACGA
TTATTGTTGGTGCTAATGGCACAGGGAACAAGATTAGCTGTTTATATTGAAGAACAAT
TAAAGGAAAAAGCACACAGAATTTCCGGCTCATAGAGCATTAAATTAACCCCTAATGTCA
ATAAAATACCAGAAAAGAGTGCCAAAACATATCTATCTTATGGTCAGAACTGGGATGGAA
20 TCGATGTATCAAAATAGAAAAATTTATAGATGGGATAATACTCATATACTCATTTACTCA
ACGATTTTGATTGGTTATTACAATATTTATTTCGCTCAACAAAATAATATTGCGGTAGCAA
ATAATCAAAAGCTCAACCGTAATGAAAAAGTAACCAATTCAAAAACAAAGCTAGATATTT
TGCAAGAAGCATGGGAAACATTATTACCACACAGAAAATTACATATTACAGCAGATGATA
TTCAAGTCTCTGCTGTAGATAATGAGGAATTGTATTCTGCCTCAAATATGAGTGATGGAG
25 AGCGAGCACTTTTCTATATTCTTGGACAAGTTTTGTCAGTAGATGACGGTCTGTCTTAA
TTTTTGATGAGCCTGAATTACATATTCATAAATCAATTATTTCAAATCTATGGGATAAAA
TTGAAGAATTACGACCTGATTGTTCTATTCTAATCATTACACACGATATTGAATTTGCTG
CAACTTCGAGTAGCTAAAAAATATGTTATCAGAAATTTATTATCCGACCCCTGCTTGGGATA
TTTCTGAAGTTCTTGAAAGTAATTTTGATGAAGAAACAATAACGATGATTTTAGGTAGCC
30 GTAAGCCAATATTATTGTTGAGGGCAACAATAATAGTTTAGATATTGCTACTTACCGCT
ATTGTTATCCTGATTGGACCATCATACCCAAAGGGGCATGCAAAGATGTCATTCAATCAG
TATCATCGCTGAAAAAATTAAGTAATGAAATGCCATTACTAACTTAAATGTTTCAGGTA
TTGTCGATTTAGATAGTAGGGATGAAAGAGAAATGAACAATTAAATAATTTGGGTATTT
ACATTTTACCTGTATCCGAAATTGAAAATCTTTTAGCTTAACTGATGTAGCAAAAGAGA
35 TATTGAACTAAATCAATATTTCAGATGAAGAATTACTCAATAAACTTAATGGATTAAAT
CCGAACATAATTAATATATAGATAATGAATTAAGACGATAAATTAGACGAATTTGTTG
TAAACAGGTTTCGACGTAAAATTGATAATTATTTAAAAAATATTGATTTATCCTCCAAA
TAACAAGTACTGATATGAAAAAATCATTACTTAATGAAATTTCTACTTAACAGAACAGA
AAATTGAAACATGGATTTAGAAATTAAGAAATGAAATTCAAAGATGTATTGAACAGCAAG
40 ATTTGGATAAATTACTTACTATATGATAATAAAGGACTCTTGGCTAAATCAGCTTGTG
TTTTAAAAGGAATGCGTAACAAACATGAATTTGAAAGCTGGATAATGAGAACATTAAAG
GAAGGAATAAAGATTTTATTGATGCAATCAGACAGAACTTCCAATTCTGGATTAAATAA
AACCATCTGAAATTTACCTTCAGATACAGATATTTTCATGAAAAATCATCAAACTACA
CTCTCTTTCCCTACTTCGAGTAGCCTGAAACCTTGCGCAGACAAACAAGGCCTGTCTGAA
45 GACCGCAGCCAATACCGCCTGACCAAACCTCGGCGAACAATGGCGCACCTGCCTATCGAC
CCGAAATTCGCGGTATTTTGTAGTATTATCCGTTTTTAAAAATGCCCGATTGCGCGT
ATATCAATGACGGTTTTTCAGGTATTGCTGGAATTTGGGGCGGTGGAGGCCGTCTGAAAT
AAAATCTTTCTTTATAAAAAGGCAGGCCATGTTTCATTTTCAGACGGCCTAAATCATTGA
GAACTAAAAAATATTAAGGGAATTTGGGTTTTTAAACTCAATCGGTAAATTTTTTA
50 TTGTGAAATATTAATGATGAAAAATCTTTCCTTACGCTTGTCTGTATTTCGTCTTTACT
TACCGCCAGCGAAATTGCCTATCGCTTTGTATTGTTGGGATTGAAACCTTACCGGCGGCAAA
AATTGCGGAAACGTTTGCCTGACATTTGTGATTGCTGCGCTGTATCTGTTTGCCTGTTA
TAAGGTGACGCGTTTGTGATTGCGGTGTTTTTTCGCTTCAGCATATTGCCAACAATGT
GCATTACGCGGTTTATCAAGCTGGATGACGGGCATCAATTATTGGCTGATGCTGAAAGA
55 GGTACCAGAGTCGGCAGCGCGGGTGCCTCGATGTTGGATAAGTTGTGGCTGCCTGTGTT
GTGGGGCGTGTGGAAGTCATGTTGTTTTGCAGCCTTGCCAAGTTCCGCCGTAAGACGCA

TTTTTCTGCCGATATACTGTTTGCCTTCTAATGCTGATGATTTTCGTGCGTTTCGTTTCA
CACGAAACAAGAGCACGGTATTTTCGCCAAACCGACATACAGCCGCATCAAAGCCAATTA
TTTCAGCTTCGGTTATTTTGTGCGACGCGTGTGCCGTATCAGTTGTTTGATTTAAGCAG
GATTCCCGCCTTTAAGCAGCCTGCTCCAAGCAAAATCGGGCAGGGCAGTGTTCAAAATAT
5 CGTCTGTATTATGGGCGAAAGCGAAAGCGCGGCGCATTTGAAGCTGTTTGGCTACGGACG
CGAAACTTCGCCGTTTTTAACCCGGCTGTTCGCAAGCCGATTTTAAGCCGATTGTGAAACA
AAGTTATTTCCGAGGCTTTATGACTGCAGTGTCCCTGCCAGTTTTTCAATGCGATACC
GCACGCCAACGGCTTTGGAACAAATCAGCGGCGGCGATACCAATATGTTCCGCCTCGCCAA
AGAGCAGGGCTATGAAACGTATTTTACAGCGCGCAGGCGGAAACGAGATGGCGATTTT
10 GAACTTAATCGGTAAGAAATGGATAGACCATCTGATTACGCCGACGCAACTTGGCTACGG
CAACGGCGCAATATGCCCGATGAGAAGCTGCTGCCGTTGTTTCGACAAAATCAATTTGCA
GCAGGGCAAGCATTTTATCGTGTTCACCAACGCGGTTTCGCACGCCCCATACGGCGCATT
GTTGCAGCCTCAAGATAAAGTATTCGGCGAAGCCGATATTGTGGATAAGTACGACAACAC
CATCCACAAAACCGACCAATGATTCAAACCGTATTCGAGCAGCTGCAAAAGCAGCCTGA
15 CCGCAACTGGCTGTTTGCCTATACCTCCGATCATGGCCAGTATGTTTCGCCAAGATATCTA
CAATCAAGGCACGGTGCAGCCCCGACAGCTATCTCGTGCCGCTAGTGTGTACAGCCCGGA
TAAGGCCGTGCAACAGGCTGCCAACCAGGCTTTTGGCCTTGGCAGATTGCCTTCCATCA
GCAGCTTTCAACGTTTCTGATTACACGTTGGGCTACGATATGCCGTTTCAGGTTGTTCG
CGAAGGCTCGGTAACGGGCAACCTGATTACGGGTGATGCAGGCAGCTTGAACATTCGCGA
20 CGGCAAGGCGGAATATGTTTATCCGCAATGAGTGGCGTAAAAACCAATAAAGACAAATTT
AGATGATGTCCGGGAAGATGCCCGACCGACAAGACTATGCAAAATATGAAAAACCAAGTA
CGCGGATCAGGATGGATGCCGATCCAATCCGCCAATGTTTCAGACGGCTGCAAAAC
AGTTCGGGTATATCGGTACCAACACGCGTTACCGCCTGACCAAACTCGGCGAACAGATA
GCGCGCTACCCATCGACCCGAAAATCGCGCGCATTTTGTGGCGGCGAAGAAACACGAC
25 TGCATGGCGGAATATTGGTGAATGCGTCCGCGCTGTGATTCAAGACCCGCGCGAGCGG
CCGCTAGAAGCGCGCGATGCCCTAGCCAAGGCGCACGAGCGTTTACCGACAAGCAGTCC
GATTTCTTGCCTATCTGAACATTTGGGACAGCTTCCAGCGCGAACGCGATAAAGGCTTG
TCCAACAGCAGCTGGTGCAGTGGTGGCGCAATATTTCTGTGCGACCTGCGGATGCGC
GAGTGGCGCGAGATGACCAACAGCTTGCCCAAAACCGCGATTGAAATGGGTTTAACCAAC
30 AAGGAAGCCGCTTTTCAGACGACCTCCCGAAGTCAGGCAGCTCACGTCTGTGAAAATGCG
GGTGACCAAGACCTATCTGCTAAACTCAACAAAAACAACCTGGATAAAAAGCAACACCGC
GCCCAATCCGCGCCGCCAAAGAAGCGGGCTACGAACAAATCCACCGCGCCCTGCTCACT
GGCCTTATCGCCAACGTCCGCATGAAATCGCCCGACGGTAACGACTACACCGGCGCGCGC
GGCAGCCGCTTCCACCTTTTCCCCGCTCCGCCCTGTTCAAAGCCAAACCCAAATGGGTG
35 ATGGCGGCAGAATTGGTTGAAACCACGCGCTTTACGCGCGGACGTCGCGTTATCCAG
CCCGAATGGATAGAGCAGGAAGCGCCGACCTCGTCCGTATCATTATTTTCGAGCCGCAT
TGGGAACAAAAACGCGCGGAAGTCGTGCGCAGCGAACGCGTGACGCTTTACGGTCTGACC
GTATTGCCGCGCCGCCCTGTCTTACGGCAAAGTTGCCCCGAAGAAGCGCGCGAAATC
TTTATCCGCGCGCGTTGGTGGCGCAGGAATGCGATTTGAAAGCGGATTTTTTTGTCCAC
40 AACAAAAAGCTGATTAAAGAAATTACCGAACTCGAACACAAATCGCGCAAGCAAGACGTG
CTGGTCGATGACGAAGCCCTGTTTGCCTTTATAACGAACGACTGCCCGAAATGGCTTGG
AAAGACGCGCAAGGCAGCGTTTGGGGAAGTGAAGATTCCGTACGGATTATTGAATCTGAC
AAAGCCGAGAGGTCTGCTGAAAATGAGCGCAACGAGTTTCGTAAAAACAAGCGTAATGGG
TCTCGCCAAAATGAAAATCACGGCAACACCGTAGGTTGGGTTGAAAACCCAACATCAGCC
45 GCAACTGCAAAAACCTGTTGGGTTTGACAATCCAACCTACGCTGCCCAACAAACCACCCCC
TCCCCCGTGGGGGAGGGTTCGGGGAGAGGGCAAAACAGTTGCCGCACAAACCAACTTTCC
GCAACCGCAGCAACCCCTCTCCCTAACCTCTCCCGCAGGAGAGGGAACAGAGTGCCGCA
GCTTCAACGATTTTCAGACGACCTGCGTCTGCAAATCTGCAGCAAAACCGCCCCCTCCCC
GTGGGGGAGGGTGGGGAGAGGGCAAAACAGTTGCCACACAAACCAACTTTTCCGCAACC
50 TCAACAAACCCCTCTCCCGCAGGAGAGGGAACAGAGTGCCCTCAGCTTCAACGTTTTTCAGAC
GACCTGCGTCTGCAAATCTGCAGCAACCCCTCTCCCTCCCCCGTGGGGGAGGGCTGGGGA
GAGGGCAAAACAGTTGCCACACAAACCAACTTTTCCGCAACCTCAACACTTTTCAGACGAC
TCCAAACCCAAAAAGCAGCCTGCACCCCAAAAAACCGTCTGAAACCCCTACCCCTCGCC
GACATCCGCACCTTCCAAGCCTGGCTCAAAACCGCCGAGCGGACAATCCGCGCCTGCTG
55 TTCTCAGCCGCGACGATCTGATGCAACACGCGCCGCGACACATTACCGAAGAACAGTTT
CCCAATTCTGGCAACCGCAGACGGCAATTCAAACCTTCTTACCGCTTCGAGCCGCAC
CATCCGCTAGACGGCGTGACCATGACCGTGCCGCTGACCGTCTCAACCGCTGCACGCG

CCGTCGCTCGAATGGCTGGTGCCCGGCATGATACGCGAAAAATCCAGTTGCAAATCAAA
GCACTGCCCCAAGCAAATCCGCCGCATCTGCGTGCCCGTGCCCGAATTCATCACCCAATTT
TTAAGCCAAAACCCCGACCGCAACGCCCCCATCTGCCCAACTCGCCCAAGCCATCGCC
5 AAAACCGCAGGCGACATCCGCATATTCGAGCAAATCAACCAAGACGAATGGGCCGCGTTC
AGGCTGCCCGAACACTGCTATTTCAACCTCCGCATTATCGACGACGGCGGACAAGAGCTT
GCCGGCGGCCGCAAACCTGCACGAATTGCAACAACAACCTCGGTCAAGCTGCCGCCGTTACC
TTCCGTGACAACACCCAAGAATTTGAGCGCGACAACGTCAACGCATGGGACATCGGCACC
10 CTGCCCGAATCCATCAAATTCGCACGCGGCAACAACAGCTCACCGGTATCTCGGCCTA
CAAAAAGAAAAAGACGGCCGCATCGCCCTGCGCCTGTTTGATACCACAGAAGCCGCAGAG
CAGGCACACCGTCAAGGTGTCATCGAATTGATGAAGCTGCAATTAAGAGAGCAGGTAAAG
GATTTGAACAAAGGCATCCAAGGCTTCACCCAAGCTGCCATGCTGCTCAAACACATCAAC
GCCGACACTCTGCGCGACGACCTCACCCAAGCCGTCTGCGACCGCGCCTTTATCGGCGAA
GACGAGCTGCCGCGCAACGAAAAAGCCTTCAAAGAACAATCAAACGCGCCCGCAGCCGC
15 GAACTCAACAGCAAACCTCGGCAAAACCCCATTTGACCCACCTTCTAAGACTACGCCGCAA
ACCCGTGCTCGCGCGCGCTTCGCCACCCGAACCCCGTGGGCACAATGGCCGCGCCTCCCC
ATCTACCTCAAAGCCATGACCTGCGCCTCGAAAAATACAGCAGCAACCCCGCCGCGAC
GCAGCCCGCAAGCCGATATCCAAGAGCTGGAACAAATGTGGCAGGAAAAACAGACAGC
CTGATTAAACAAGGTCTCCCCATTTAGACGGCCTCGCCGCGTTTAAATGGATGATTGAA
20 GAATTGAGGGTGTGCTGTTTCGCGCAGGAATTGAAGACACCGTATCCGGTGTGCGTGAAG
CGGCTGTTGAAAGAGTGGGAAAAAATTGAAAAATAAAAAACAGCCTGAAAAGTTTCAGG
CTGTTTTTTATTTGACTAATCGAAGTTTCTATATCTATTTAAGTCCCTCTCACTAAT
CCAAAAGTTAAATCAGCAACATCTTTGGGGGATACGTTTAAATTTTCAGCAATCTGTTCA
ATACCAATGCCATCATTTTTTAAATAGTAAGCATTTTACGTAATGCGCTTGATATTTCC
25 CTTTCCATTGGCTCTGGTTCGATAGTTTCGATATTTTTTCTTTGCAAACAAAGGACAAAGA
TTGTGTATATACATCCTATCAGTAATCATTCCTAATTTATGCATCCGATATGCTAAGGCA
ACAAGTGATACACCAAATCGTCTTTTGATTTTTAATAAATTTCAATAGTGATAGGAACA
TGACGATATAAGCGTAGTGCAGCCTCCGGCATTAAAAAGCTGAAGCAAAGGCATTAGCC
30 TCTTTTCGATATATCAGAGTTTCATCTCTGTAAATTTCACTATTTTTACTATGTTCC
ATACTGTATTTATCACGGATTAAGTGCCCTAATTCATGGGCAGCATCAAATCGACTACGT
TCTGCAGATTTTTGTGTATTTAAAAATACAAATGGATGATTTTCATACCAAGTACAAAAG
GCATCAATGTCCTTTGTATCTAAAGATAATGAAAATACACGAACACCCTTAACCTCAAGT
AGGGTGATCATATTCGGAATAGGTTTCATTGCCAAGCCCCCATTTAATCTTAGTTCTGA
GCAGCCTCTTCAGGAGAAATATCAGAAAAATCAGGCAATACGGCTTGACTTAGTGTAAT
35 TCTGTCTCGAGCAGTCATTTAACAATAAGCCGTAATGCTATGATTTAATGCTGTGTTT
TCAAGCCTCTTCGAGGTGCGTGAACGAGCAGGAAAACTTACTGCTGAGATTTCAACTCA
GGCAGTCTTTTCGTATTAGTAAAGAAATGAACTGGAACTCTAATAAATTTGGCTAATTCA
TTTAAATCAGGTATTTGCTCATCTTTTACATAGTTTCTAACCTGTGAGCGGTAATACCT
AATAACTCAGCTAATTTGTTTGGCTACAACCACGTTTATCCAGCGCAAATCCAGTCTC
40 TCACGATTAAATGCTGCATGATTTATCATTCAAATATCCTGCTTTTTGTTTTCTTTCA
ACCAAAGGCTCATATCTTCAACAGGTTGCTTACGTTCAAGCTCATCAAATTTAGTTAA
TCAACATCAGCTAATATAATTCGCTGCTTGTAACCAAGTTATTTGATGACTAACAAAACCA
CTCGGTAAAGATAATTCAGGTTGCACTTTATTATACTTCCAGTGAAACAGCAGAACCCAA
AACTGCACAGTATCAGGCAAATCTAGTTTGAATTACGAATAGCCTCCTCAAATCCCTTA
45 CCTTTCCTTGCGGTTGTCATTGGCATCCCGTGATGCCTACCAACATCTGAAGTAGCAGTA
GCCACAATAATACTTTTAGTTGACATGGCGAGAGACATAGAAATGCACCACCCGACCAA
GGCTCAAGCGTCCAGCCATCTTTACTTAAATATACCCTTAGAGCAAATGTAATTTCTGCT
TGCCGATACATCCCAATGTATTTCTGTGAGATAATGCTGCTTTGTCCTGAATATTATTA
TGCGCAGTAAGTACAATCTCTTTAAGCATCTCTGAGATAAGTACTTGCTGATTTCACTT
50 AAAGCAATATCACTATTTTGTGTCGACTATTTCTCTACTTCAAATGGGAAAGGTTCT
GATAATGCAATTCACCATAAAAAATTTCTAATTTTATACGTAATGTTTACACAATATA
TCAGGAAATATGAAACGTACAATATATCTATAAAGCAATTAATAAGTAGCCTGCCCAA
CCGTGTCCTTATCTTCGGCACACCCGACCTGCAAATCAGCAAAACCTTGAATCCGTGT
GTAGGGTGTGTGCGGTACATACGCACGCGAGTCTTTTTAAACCACAGCCCTTCCCAACTAA
55 ACCAAAAGGTCGTCTGAACCTATTTTCAGACGACCTTTGCCACTTTGTAACAAATC
TTCCACCATCTCTCCCCAACATCGCCCGAACAGTAACCTTCTCATATTTCAACAAC
TCCTTGAAGCAAACCATGTCTGGTATCTACCTACCCCGCCTATTCCCGCCCCATATCGC

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CGAACGCGGCCTGTTGTATTTTCAGCAGGGCAAGGTTCTCGATGTCCGAAAACTTCCGC
 CGGGCATTATCGGGCGGAGGTGTGCGGTTTCGAAAACTATTGGGTATAGTTGAAGCTGGA
 TAGTGATTTGTATATTAAAGACGAAGGCTGCAATTGTCCTTATATCTAAGAGTGCAAACA
 TACCTTAAATTACTATATTGCATAGGCAAAATACAAGCCTATAACGAATTGGAAACAAAA
 5 TGCCGTCTGAAACATCTTCAGACGGCATTATAAAATCTGTTACCTTTTCAGATGAGTA
 ATGTACACCCCTTATACAATTTTGTACTATGCCCCATAAATCCACGGCTAAAGATATCC
 TTATTATGTCCTATGATTTCGAAAACGACTTGTAAATCGGCTTAGCATCAAGTGCCCTAT
 TCGACTTATCCGAATCGGATAATATATTTAGAATGGAAGGGGCAGAAACCTATAGGCAAT
 ATCAGAGAGAAAAACAAACCATCCCCAAAAAGGCGTTGTCTTTCATTTATTAATA
 10 ACTTCTGTCAATCAATGAAATAAACCCAAACGACCCAAACGATTGGGTTTATCTTTTATC
 CAGAAACAATCCAGATACAGATTACGAGTCATAACTATAGGCTTAATATTACACGATTCT
 CATTCCATCAAGGCGGAAACCGCACAAATACTGAAACACTATCGATCGATTTGTAAACA
 AGCCTACTTAAGTAACTTGCAGTCCTTATCATTTCCTTTAAATAATCCAGCCCGTCACT
 ACAGAACTGGCGGACTTCTTGCAATAAAGGTTACTAGATTTTCATTCATCTTAATAAT
 15 AAAAGGATTTTTATCTTTATCTATGGCTACCGCCTTCAACATGAATTTACTGTCTAAAGC
 CCCGCGCGGATTCATTCAAACGGATACAAAAGCCTTCTGCCTCTTTAATCGGCAAACT
 TGGCCACTTGGTAGATGTTTGTAAACCTCCCATTCTGCAGATAAACTTTTCCATAAA
 ATGTGCATTTTCTAACAAGGCTGCCGCACTGCATTATCTTTGCTTTCTAACATAATT
 GCGATAGCTCGGATAAACAATTAAGCAAGTACAGACAATATCAAGACCACTGATATTAA
 20 TTCAACCAGCGTAAACCCCGATTATCAGTCATTACTTTACTTCCAATAAGAACAGATTA
 TTCAACATATTTCTTTGAACAGACTTACTATCCCATTCACAGTATGCATATTTCCCACT
 CTATTTTTTAGCGCGGTATAGCCGTTTGGCTGGGCCTTTTGGTGCGGGCGCGCCGAC
 CGAAGCCTGGTCTTCAGCTTCGCCAGCACCGCAGGGCCGATGCCCTTTACCTTGGTCAA
 ATCGTCTACAGACTGAACGCACCGTTTTCGCGACGGTATTCCGCAATGGCCTTCGCCTT
 25 CGCCGGGCTATGCCCGGCAGCGCTCCAACCTCTGCTGCGAAGCCGCATTGATGTTTAC
 CGCCGCAAGGGAGAAGGCGCAGGAGAACAGCATAAGAACAGCACGAACATTTTCTTCAT
 GGTTTTTCTTTAAGGGTTGCAACAATAAACCGCATCTTGCACGATAAAACGAGTCAT
 TCTAAATGAATATCCCAAAGTTCAAGCCGTTCTCCGCAAACCCGACCGGACACCGTA
 CGGATGCCGTCCCGCCATCACCGACATTTTTTCCGGGCAAAGCAAACATTTTTTCCGGGC
 30 AAAGCAAAAACCCCGAATAATCGGGGGTTTTCTGAATGGGTGTTTGGCAGTGACCTACT
 TTCGCATGGAAGAATCACACTATCATCGGCGCTGAGTCGTTTCACGGTCCTGTTCCGGAT
 GGGAAGGCGTGGGACCAACTCGCTATGGCCGCCAACTTAACTGTTACAAATCGGTAAA
 GCCTTAATCAATATATTCCGTAATGACTGAATCAGTCAGTAAGCTTTTATCTCTTGAAGT
 TCTTCAAATGATAGAGTCAAGCCTCACGAGCAATTAGTATGGGTTAGCTTCACGCGTTAC
 35 CGCGCTTCCACACCCACCTATCAACGTCCTGGTCTCGAAGCACTCTTAGTGCGGTTAA
 ACCGCAAGGGAAGTCTCATCTTCAGCGAGTTTCGCGCTTAGATGCTTTTCAGCGCTTATC
 TCTTCCGAACCTAGCTACCCGGCTATGCAACTGGCGTTACAACCGGTACACCATAGGTTTC
 GTCGACTCCGGTCTCTCGTACTAGGAGCAGCCCCGTCAACTTCCAACGCCCACTGCA
 40 GATAGGGACAACTGTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 98>:

gnm_98

CTATATTTTACAATTTTTGGTTCATATGAATGTCTGTTCCGTTTCACAGGCAAACCGTGTTT
 AAACGCTGTATTACAGCAAATCATCAGATAACGGGCCGGCAGAAAAAATGATTCCGTCTG
 45 ATTTCTTATTCCAATAAAATCAGGTTAGATGATATATTGCCGCTTCTGTCTGTACGCCGT
 TTCGGGCTGCACACCACATCTGTTCAAAGGAAAACCATGTTTCAAAATTTTGATTGGGC
 GTGTTTCTGCTTGCCGTCTGCCCCGTGCTCTCCATTACCGTCAGGGAGGTGGCGCGC
 GGCTATACGGCGCGCTACTGGGGAGACAACACTGCCGAACAATACGGCAGGCTGACACTG
 AACCCCTGCCCCATATCGATTTGGTCGGCACAATCATCGTACCGCTGCTTACTTTGATG
 50 TTCACGCCCTTCTGTTCCGGCTGGGCGCGTCCGATTCTATCGATTTCGCGCAACTTCCGC
 AACCCGCGCCTTGCTGGCGTTGCGTTGCCGCGTCCGGCCCGCTGTGCAATCTAGCGATG
 GCTGTTCTGTGGGGCGTGTTTGGTGTGACTCCGTATGTCGGCGGGGCGTATCAGATG
 CCGTTGGCTCAAATGGCAAACTACGGTATTCTGATCAATGCGATTCTGTTCCGCGCTCAAC

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ATCATCCCCATCTGCCTTGGGACGGCGGCATTTTCATCGACACCTTCTGTGCGCGAAA
TATTCGCAAGCGTTCCGCAAAATCGAACCTTATGGGACGTGGATTATCTACTGCTGATG
CTGACCGGGGTTTTGGGTGCGTTTATTGCACCGATTGTGCGGCTGGTGATTGCGTTTGTG
CAGATGTTCTGTCTGACTGGCTTTCAGACGGCATAAACGCTCCAGAAAACGCGGCAGGACA
5 TATTGCCCTGCCGCGTTTTCTGTAGTGTAACTTATTTTTTTCATCATTATTAGAACCA
GGTTGCATGATAATACCTTTTCATTAACCTGAAACACTGATTAAGAAACTCCAGTCTGTCTA
ATGATGAGGTTTTACATCGCCAAACTTGCCAATCAAATGCTGGATTATTGCCGTCTG
AGATTTGGTCAAATCCAAAGGCGACATTCTTAGACCCTGTGTGTAATCAGGGGTATTTT
TGCGTGAATCGTCAAACGCTTGGATGAAGGCTTGACCAATCAAATACCAGATAAACAAA
10 CTCGCATTAACCACATTTTAAAAAATCAAGTTTTTGAAGTACTGCCACGTATGTAGGTA
GCTTTGACCGATATTTGCATAAAAACTCCTTTGCTGGTGAAAGGAATTATTTGCCAATT
TTAAATATTTCTGGCACCAATAGTACAATGACAAAGACAATCATGCCAATGATTAAT
CAGGATAGCTAGAATGAGTCAATAACGTCAATGCTCCCGCGCTATCACACCGATATTGA
TGATAATGTCATTGGATGTAAAAATCATGCTGGCTTTGATATGGATTTCTTTATTTTGAT
15 TTTTGCTCAGTAGATATAAGCACAGCCAGTTGCAATCAATGCCAAAAATGCCGTGCCAA
TCATCAGTTGATAATTGGGCAGCTGCTCAGCACCGATAAAACGCCTAATCACTTCTATCA
CCCCAAATAACGCCAATATTATCTGCGTTATCCCGCCAAAAATGCCACACGTTTTTTAT
ACGCCAGCGTCATACCAATGGCTGATAGCGCAATATATAGACAAAGCTGTCCGCCAGCA
TATCTAGACTATCAGCAATCAGCCCCATAGAATTAGCAAAAAATACCAACCGAACACTCTA
20 TGATAAAAAACACAAAGTTAATCATGAGCACTTGATATAATAATCTTTTTCTAAGTGCT
CATCAGGCTTGTTAAACACTATCTTATCAACAATCACTTCGGTGGAATGATATGACTAT
CAAAATTAAGCGGTTCAAGTACTTGTAATAATCGTTGTATCTTGATTATCGTGATAGACGG
TTAAGCACCGCCAGCAATATCAAACGTAAATTCATAAATATCAGACACATCTTTAAAC
GCATGCGAATGAGCTGTTCTTCGGACGGGCAGTCCATTTTGGTAATGTTAAAAATGGTCT
25 TTTTCATCTATTTAGTTCCCTTGTTTGGATCAGGTTGGCTCAAATAAATCTGTGTTTATAT
TGCTGCTTGGAATTTTTGGATGGTTTGAGTAAATTGATTAGGTTAAAAATTACCTTTGG
AAGTACCGCCACGCATAATAGTTTAGATATGTTTATAATCTCTGGATAAAAAACGTAAT
AAGTGCTTACTGGATAACAAAGTCCAAACCAATAGCAGGCAAAATAAGGCATCCACCCCC
CTTCTTCATTAAGGATATATATTGAGAAACAAATCGCAACTAAACAGAAAAAACTTGGGA
30 GATAAAGCCATTTTCATTTCCCTATTCAAGAATCTAGCCAAGATAGGTATTTTGTATTCTA
CAAAAAAGAAAGGCATTTCCAAGGGAAACATGTGAGATAAAAACTTTTGTTTATTTTTTA
CTATAGATAGAACCTTGCTTCTCAAGAGAAAGCCATTAAATAATACCGATGACAGCTATTA
ATATATAGAGAATAGTATAAGTATGAATAATCTTCATTAGACAAAAAGAAGAAATGGCAG
ATAAATTACATACGATATATTGGAATATAAAATATTTACGGTCTAAACCTTGTTTCAGTTG
35 CAATTTTTTTAAATTTGCCTTGATATAAAAAATCAAAGGCGTCCATTAACTATCTTTCA
CATTAGAAATTTAAAGCTAAATAATACGACAAACAATGTGAAGTACTATTTCATGGTTTA
TTTTAAAAATAATACTATTCTGAACATTATTTAGATACAGAAATTAACAAATTAGAATA
AACAAAGCTTTTAAATACTTTAATTTTATTGGAAAGCTATAAAAGGAACATAACTTTACA
CACTAGTCACCTCTTTTAAAGAGGCAAAAGGGATTGGGAAGGTGCTCTTGGAGATAAGCA
40 CTGGTATTTTCGGCCAATGGTAAATAGAGTTTACCTCAAATAGGGTAGAACCTCCTTCATC
TGTCAGTTAATAACAGCCACTTTTACAATGCCCTGTCAAATAAAGCGGCACGCCCGATT
TTTCACTCATCGTCATCAAATAACCCATCACCTTTTGGGGCCATTGATGCCGCGCACCA
CGGTCAGATTCTCAAACGGGGAAAAACCAAAATATCTCCATACCGATTCCGCCGTTGA
TGCCGTCTGAAGCACCGTCCATCAAATTTCCAACCTCTGCAAATCTGCGTTTATCCGTT
45 CGAGGTATTGGGCGGTTTTATTCAAATTTGGCGGAAAAGCTGCCGATGCTTTTCTCTTTT
TGCTGTATAAATATTTACCGCTTCCGGCGTTGCAAATTCAGGCAGCCCGATTTTGATCA
CGCGCGGCTGCACAGTTTGTGCTGTATCCGCCACCTTGTCAGCCACGCCCGTATCT
CGGGGCGGACTTCGTCTTTCAGACGGTCTTCGCGGTGGAATGCCGCACAATGTCCAAAC
TCTCGCCCATAAACGAACCGTCTTCTTTTGCAGGACGGGCACTTGTTTCGACCGATCA
50 TACCGATCGGCGTTGCCTCGTCGCTGTTGCCAGCACGGCTTCTTCAACGTCCGCGCCAA
ACAGCCCGGCAGCATCCGCGCACGCACGCAAAACGGGCAATGGTCGTAAATATACAGTT
TCATCAAAATATTCCTCGTCAACCTGTGCGGTACCGACTACCTTAACACCCCGCGCCGCC
GAAACAAGTTTATCTTCCCGCTATGCACCGTAAATAAATAAGCTGTTACAATAAACTCG
TTTTTATCGGAACGGAAGACCCCATCATGACCGCCATCAGCCCGATTCAAGACACGCAAA
55 GCGCGACTCTGCAAGAATTGCGGAATGGTTGACAGCTACTGCGCCGCTCTGCCGGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 99>:

gnm_99

TCATACATATAATTAATATAGAGCCTCAAGCAGATCAATTCCAAATATATGCTGAGTTTG
5 TAGCTATGTTAAGTTTCATGGATTTCTAACTCTAATCCTTATCTTTGAGGTGATGATTG
TCTTGGTCCAACTCAAATGTTCTCATTCTATGAAGGACAACATATCTTACTTGGACCAA
ATAAGTTCCCTTAATCTTTAAACAAAATCAATTGGCGTTAGTAAATTAATTCATGTCCTAT
ACATATTACTCTAGGTCTAAGCTTACTTCAACTGACATGGGATCTCATAATCACTGGTTT
ACTTTAGTCAAGTGGTAAATGGGAAAGAATCTTGCAAATGTTGAAAGGGAAGTGGCAC
10 ACaAGAGAAAGTAAGAAACCGATAGGAGTTATTATTCCTTCATGATCAGAAGTGAGATTG
AGAGAATCTCACAAAGACAATCATATCTTGTGTATAGTGACATGTTTCAAGAATAGGGT
TTTTAATTGTTGACACACACACGATCCAATCCATCAAACCCAGCCTGATCTCTTTTCGT
GGCTGCGAAAAATACCGTCAATCAAGAGAAGAATAAGCATATCTCTCTGCTTATCCCCA
CCACTTTGGGCTATCTCACACCCACACCTTCATCTGAGCATGATTCTTGAACAAAATAA
15 TATTCTTCGAGAGAAAAAGTAAAAGCTTGGTCCACATAAATGTGAAGATTCTAATCCGAT
CATGCATAAAAAAGTTGCAAATACATATATAAACATGTGCGGATGTACCATATCTTTA
GCATCTGCAACAAAGAAACAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 100>:

gnm_100

CGACCCGAGTCTTCGAGTAGGACCCACCTCTGAATCTGTGACAGACGCCGGTTTCGTTCT
CTCTCTCTCCTTTTTTCTCTCTTTGCTTTTCCAAAAATAAAGTTGTCTTTTTTTATT
TATAATAAATGATTGTTGTTTCACAGTGTGTTGTTTGTGTTGGGTAAAAAGAAAAT
CATAAGGATGCTTCAATATTTGTTTTGTTTGGTTGAGTGATTGCTGAAGCCAACTTAA
25 AAGAGAGAGAAGAGAAGAGTGACTCTGTGTGTGTGCAAGAAAGTCTTCTCTTTCACAC
CTTTCGTTTTCTCGAACCTCTCCTTTAAAGATGGTGGAGGAATCTTGGGTTTGACAACTC
ATTAACACTGACCTCTTTTTAGCTCTACAAGCATCCAAGGAACCCCTCTTACTTTTCCC
TCTTCTTCATTCCCTCTCTCTCTATATCTCCCAATTCCTTCTTTTTTTAACCTTGATC
TTCTTCTTATAAGAGACTCAGA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 101>:

gnm_101

TAGCTTGAGAAAAGACTCAAGTTTGTCTGCTCCACGCCCAATAAACTCGCATAAAAGAA
TTATTCTTGTTGTATGACCTTCTTCCAAAACGGAACGCCATCCCTGCATGTAATATATAC
35 ATGACACAATATTAATATTCTTTTTACTCTGTAGTTTGAATGTGGTATTTTCGTTTCTTTT
CTCTTTTAGTTTCAGAAGGCTTGAACCGCAACCCACTTCACGGCTCATTAAGCTCTCTA
TCATACAGAAACCATATTGTAACAGATGTACTGGAAAAGAAAGTGAACATGATAATGACA
GCGAGACGTATCATTTACTCTAGAGGATTGTGAAAAGAAAAAATTACCTCTGAGAGGCA
CTCCAAGAGCATTTTGACAGATTCTTGATGAAGTGGAACTCCAAACCGGTCAGCTAG
40 AAAGAGAAGATGAATCAACTCGGTGCCAAAATTCACAGTGTCTTCCATGTTCAACTCTCC
ACTATACATGAAATTCATCATAGCCTTGAATGCTTCTGGTGATACATCGGTAGGTAAAT
CGTTGATGAATGGCTTTCATCATCCCATTTGTAAACATCTGGATGTTCATAGAGAATAA
ATAAGAAAATTGAGAATCAATATATTCTGTACATCAGAACTGCGACACTAAAAGAGATT
CTC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 102>:

gnm_102

```
5   TTTGCATT CAGGAGTAGCGGTTGACAAATTCAGCAAATGAGAATATCCAGAGATTGGTG
    TTCTCTTAAGTGTGATTACTATTGTTTATATCATTACTACAGCTCTCAGACCCAAGTGT
    GAACTGATGCTGTTGCTGTCTCCTCTGCTCAAAATATTGTTTTTGCCTTCAGGTGCAACA
    AAGATGAAATTAAAAGTGTAAGCACAAATGGGAAGCATATGCTGACAAACATCTCATAAAG
    AGAACAAGAAGGAGCTTACACACCTCTTCTTCACTGACGTGTGTGACTGATTACCCCAA
    AGGTTCCCAAGAAAACAATAACAAGTCAAAATGAAAACAAATTATAAGAAAAATAAGCTAT
10  TATCCCAACACCAAGAGGTTTTAGCTTCACCCCATTTATAACGGACCTCTGAATTTGAAA
    TATCACTAAAAGGAAAAAGTCACTCACAGCGGCTACTTCCGCCTCGATCCTCCCATCCA
    TTGCAGCATTCGTAGAAATTCGGTCTTAGAGTTTTCAAATTGTACrACTGCACAAAGA
    TTTTCGAAATTAATTTTCGACGCCACCAACGAACAATTCACCCAACGATTCCATAACTAG
    GTTGGCATTCACTATCAATTAGACACTGAGACTGAAAATTTGAATCCTAATCCTAAATT
15  TCCGATCAGATCTAGAAGAATCTAGGTAATTTCTACGAAATCCCTCAAAAAACATACA
    GATTTCGAGAGAGGAGAAAGAGATATATTTAGAAAATTCGAGAAGCTTCGACAGTATCTGA
    ATCGCGTCCCCAAAACGGAGCTCGGAGCATAGAAACGATTACGAGAAGTTGATAATTGCT
    GCTACCGAATGATGAATCCGATGATCTTTGATCAAATTTGCAGCAGGGGAAATCAAAGAC
    AACGACACGAACGGTCTTTCAAATTTGAAAATTTCTTGTAAGCA
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20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 103>:

GNMCG08F gnm_103

```
25  CCCAGTTTGCTTTATTTTGTAAATCGCTTGTGCTTGTGTGCGACACCTCAACTTGAGAGT
    AGTATGTTATTGAGATGACGCAAAATTTATACATTCTTATGTTGTACCTGTTATACTTTC
    ACCAGGCTGAAGAATTAAGAAAATGCCTTTGGGAAAAAAATGTACCAGCAAAGGGTATAT
    GTTGGGAATGCGGTATTGGCATCCATTCACTGAGGAAGCCATTGAACAGGTATGTTGAAT
    ATGGTGTTTGGTAGTATCTTGATTTAAGGCTAAAACACAAAGTTTTCTTTTCGTATTTGC
    ATCTTCAAATATTTGCTTACATTTAAAGTAAACCACTACATTTTGTGTTTTATCAAACA
    GCATTTGCAAAATAATGATTGAAGTATGTGTGAACACCTGGAGTTTGCACCTTTGTGAGTC
30  TTA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 104>:

GNMCG09F gnm_104

```
35  AGGTCGGTATCCGTTTCAGAACCTGGTATTTAAGTGGCAAGACCCCAAGCCCAATTGTAA
    TGTTCAGTATGTTGGTCTGAGCAGCTGGGATAAACATGTTGGATATAGAAACGTGAGTGT
    GTTTCCTGTGACACATAATCATATCTTGCTGTGGAAGCAAGTGGATTGCCGTGAAGTTAG
    AGGAGATGAGTCTGGTGACGAGAAAGTTGTGGAGGAAGGGACTGGTTATGATTATGAACA
    ATGGGGACTTGGGAATTTCTTGAGAGTTGGCAATTATCTGACACAGTCTTCCTTGTG
    TGAAGAGGAAATGGATGTCCCTGCTCACAAGGTTATATTACAAGCATCAGGTAATTTCC
40  TTTGAGATCATCTGATGGGATGTCACTCAACTTCGTGGAGTGTCT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 105>:

GNMCG10TRB gnm_105

GAACGACCATTATCTGGAGAATTTTCATGCAGCTTAAACGTGTGGCAGAAGCCAACTGCC
AACCCCATGGGCGGATTTTCCTGATGGTGGGATTTGAAGAAGTGGCAACCGGACACGATCA
TGTCCGCGTAGTCTATGGCGATATTTCCGGGCATACCCCGGTACTTGCGCGCGTCCATT
5 CGAATGTCTGACCGGTGACGCCCTGTTTCAGCTTGCCTGCGATTGTGGCTTCCAGCTCGA
AGCGGCATTGACGCAAATTTGCCGAGGAAGGCCGTGGTATTTTGGCTGTATCACCGTCAGGA
AGGTCGTAACATTGGTCTGCTGAATAAAATCCGCGCTTACGCACTGCAGGATCAAGGTTA
CGATACCGTAGAGGCTAACCACCAGTTAGGCTTCGCCGCTGATGAGCGCGACTTCACTCT
TTGCGCTGATATGTTCAAACCTCTTGGCGTCAATGAAGTCCGCTTGTAAACCAATAACCC
10 GAAAAAAGTCGAAATTTCTGACCGAAGCAGGGATTAATATTGTTGAACGCGTACCATTGAT
TGTAGGTCGTAACCCCAATAACGAACATTATCTCGATACCAAGCCGAGAAAATGGGCCA
TTTGCTGAACAAATAACCCCTCTTGCAATTGTGTAATTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 106>:

15 **gnm_106**

TCATATTCTTCAATTTCTTGCTCCTCAATGACAACGATGGTAGGCTTTACACTAGGAGAG
GGACGAAGCAAGTCCTGAGCTTCTTCCCAAGTGAGTCTCAGCTCCATAGATTCTTCACTA
TGCAAAAGAAGTCTCTTATTTTTTGCACCAATGGTTCGAGTTCTTCTTCTCTTTAACT
CGTGTAGGATCATCACCTATCCTGCCCCGTTAGTCTCACTGTTCAAATTTCTCAGGCATA
20 CCATTCAACTCTTTTCGGTATTAGTGAAATACACGAGGAACCATTTATGGAGGGTGGGTTT
TCTGTTACACCAGACGATGATGTGCTCCTCAGTTGATGTTCCGTTGGTGAGCCACAAACC
TATTTATAAATATTGTAACCGGATAAGAATGGAGCTAAGCAGAAAATAAAAACAGCACA
TTCCTACAGAAACAGTTATAGAAACCCCAACCTGCATGTCTCCAGCATTAGCTGCCTT
CCTGGAACCCATGATTAGTTTTCGCCAGGATCAACCCGACTGAAAGTTACTGTAGAGGT
25 GAAAAACACAGAAAACCAACAATAGTTTTAGAAAATGGTTCATGAAAATTTGATGTTAAA
ACCAGCAAATGCTTGAAGCTTTAGCTAAGACATGAACATATTTAAAAGTACCTGTATCAC
CAGCCTGTAGCATCATGGACTGTATGCATGGAGTGACACCTTCTAAAACATACATTCTAC
TATTGTTATTGGGCCAATATCTGAACTGGAACGTCCACTCCCTACCCCTCACATCTTGA
TTTTCAAAGGAATGCTTCGGATTGACTAATCGGAGGAAAATATGCCT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 107>:

GNMCG12F gnm_107

CCCACTTAAATTGAACTAATTATGTGTTTGCAAAAACTTAAATACCACATGCAAAAAGT
TTAGTTTTATTTTAACTTTTAAGCAATTATGAGCTACTTCTCAACTGTCCATTTAAAAAT
35 GACATGTTATATGTTCTTTTTTGTGCTCATAGTTATGTTATAATTGTTTTTTTATTAT
TATTATGAGATTGTATTTAAAGCTCAAAGAGCTAATGCTATAGTTTTTTTTTTCTTTTT
TTGTCATCATTTTTAAACGAGAAGTGTAGCCAATGCTATAGTTAAATATTATTTAATA
CTACACAAAAAATCAAGGTATTCAATTCAAAGAAAACCAATGGACAATATATGCCA
CATTTGCACCTGAGAAATGAAATACATCCATGTTTTCAAATTTACATTTAGCCCCGTTAT
40 AATATTAATTACATATAGGACCCAATTTTGACGTAAGGTGAATCTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 108>:

gnm_108

GTTGTCTGGCATTACAAATTAATGGTTTAGCTGTCAAATTCAAAAACATGATTTTATCC
45 ACAATGAATCTAGTAACAATCTACAACAACAACAAAAGAATCTAGTACTAAAATTGGGG

-632-

TCAAAATCTATTGTTAAACTTAATCCTCTTATTTGAACTTCATCTTATCTTAATCCTC
TTATTGCTCTTTTAGTTGAAACAACTCTCCCACTTTTGGAATTTATAAATAAATTTTGCA
AGCTTCACATGGAGTATAGTGTGATAACCATATAAAGTCACATGCGGCTAGACTTGAGAG
TCGACACATATGTTTATGTGCAATGTATTGGTTGGGCTTCTTAATTATGAAACAAATGGG
5 CTTTGCAATAACAAGTTAAGTTTCTCGATCAAGCTAAGCAATATCTCAGCTCGTGTGTG
ATTGTTTCTTTTCTTGGTCAATTCATCAAGCTATATTTCTTCTAGTCACGGTTTCGTAC
CGTTGCCTCTATCCGAATCCATGCAACCTCCCCAACCATATATAACAGATAAGAGATTTG
CACAAATGACAGCGAAATGTGCTAAACTCGTCTGGCGTTTCCTAAGAAGACGACATTATT
GTGTGAATTGGAAGAAGCGTGATTAGGGAACTTGACGTGGACTTTTTGGGCTATTGACA
10 AATAATAACCAACTTTGGCCCAAACGTTCGTATTAATTTGTGGTTCATTTTGTCTTA
GTTGCATCTTTTCTTAGCCTTTGTCCCTCGGTTTAGCCGCTGTGAGGTCGGGACCGTTG
TTAATTATTGTAACACCGCATTAATTACATAATAATAAACTCGCAAAATAAAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 109>:

15 **gnm_109**

TGAACACGTAAGTCTACAAGTTCTAATTTAAATCACAGTTTTTCTTTTTATATTTAGA
AATTTTTACGGACGGAGATGGCTGTGGAATGTGGATGTACATAATCTATAATTTATTTT
ACAGTTCTCCAATAACATTAGGTGAAATTTTTCCCGAAATTTTCGACTTCGTGAAAT
TGGACAAAAAAGTCCATAAACCGTTAATTTCTGTGTGTGATATAGATTTGTGGGTCGTA
20 AATAATACTAGCAAAATCCAACAAACTTTTGTCTTCTGTGCTTTTTTCTCTTAGATT
TTTTTGTGTGTGTCTAATTTTACATATGCATGCCCTACAGATAATTCCTATTTATGCATC
TACAGAACTCAATTATCGTCTCAGTGATAATAAATGCAGTAACTGTAAGAAACGGACGTA
TCAATTTCTTTTCTGACAGATTGAAAGTTGTCTTAGAGAAATCGGTACTTATATAATGA
GCATATCATTTTCTCAGCGTGAAATCAGAATGAACCATTTATGATTTTACCCACTATATA
25 TTAAGAGTAGGTTAGGAGAAAATTGATCCTACGTGGTACGTATTAGCTAAGACCAATT
CAAAATATGAAATTCCTCTAATTTATCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 110>:

gnm_110

GGATGTACGATTAGAGAGAAGTAGGACCATGGAAGTTAGGGAAGTAGGAACATGTCATAG
ATAAGGCCCAACCCAAATATGTGGTCGTGCTTCATCTTAGAACCTCGTGGTGTGTTGGCTT
AGCTACGTCGTCAAATCATCCATCAGAATCCAGTTTCAGTTTTGTCTTCCAATCATGTTT
ATACACGTGTTCCATATCGTCTTTAAAGATATCTCACGTCTCTTACATTGCCTAGTTGCC
TAATAATTTTCTGCCGGTGCAGTAGTTTTATAAGACTATTTGTAGTTTGAATGTGAAGA
35 TTCACAAAATGGGTCTTCATAAAAAGTTAAAAACCTTACCAGTTTTCGTGATTTTTCTA
TTTTGATGTAAGTTTCTGTGAATCGATGTGATAATATGTCATGTGAGTCTTTTTTCTCCG
GCTGACATAGTAACATGTGATTTGATAAGAAAATTATTTTAGTATCGTGATAAATTTGT
GAGGTGTTTAACTTTTTGTTTAAATCTTAATGCAAAAACCTTCCAAACCTAGATTTCTTT
TTTGTAATTGGTTTTGCATCAAAACACAATATCCGAATGTAAAATATTGAATTAGCTAAA
40 CAGTAGATGTCCACTAGATCATGAGTAGGCGATATACATATAAATTTCAATTAATTCAGAG
AGAATAATAATTAATTTTGTAAAAAGGTGCTAAGGCAAGGTCTTAATACAAGTCTAAAT
TATTGAGTGAATAATTCATGTTAGGAAATAGGTTGGACCATAAGAGGATGGTGCTATCA
ATCTATTACAAAAGTACAAATACCTGAGCTGTACTGCCGG

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 111>:

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GNMCG15F gnm_111

CCCTGCTCTTCCGTTCATGTTTCTGCACTTTTTGTCCATCCCCATTCCCACATTGTCAC
 CGGTGCTGGTAACTCCCTTCTCTGTGAATCATACGTTGCTAATAATTCTTCTACACTCCC
 GAGCGGAACCTAACGACTGCCCAACCAGAAAAGAAAAGAAATTAGAAGTGAAGATAACAGAT
 5 TCTTTTGTGGAGCTTAACTAGATGTAAGATGAAAAGTGTGTTACCTGTGAGCTTCA
 AGGTTTGAGACAGCCATAGCACCAACGTATGGAAGACTTCCACAACAGCATCTGCCAAG
 TCAGATATAAACATAGGTTCTGTTCCCTAGAGCAGGTACTCGCCCCAGTTTTTGATACCA
 GACTTCAAAGCCAACTCTTTATACTCAACATCTATCTCCTCCAGAGTTTCAATGTGCTCG
 10 CATCACAACCTGTTAAATAGAAACAAACGTGAGTTTCAAATAACCAAGAGAGAGAGAAT
 TTGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 112>:

gnm_112

TAAAAAGGGTAAGTGGATCCTGACCCTGTATATGCTGAATGAACTTTGTCATTTTCTGT
 15 TAAATTAATTTTCGCTGATGCCATCTATGCTTTGATGATGACGCAGTTAGAAAACAGCAAC
 CTAAGCAAAGAAATCCAGTATTCAATCGTCTTGAAGTTCTTAACATCTTCTATCGATT
 TGGGGATTATTTAATTTGTCATTTCAAGACTGATTTTCTCTCCAAGCCCTCACTTATTTT
 GTCTTGTGTACAGTTGAAGGAGGCTGCTAGCTTCCCTAACATCCGGATTGATATCCCCAGG
 AAATGAACCGATGTATGAATTACATAGTCATGTATCTTAGGATTGTAAACATCTCCAGGT
 20 TTATATTTCCAGACTTCTCAATTATTAAGCTTTTCACCTCTAGTTCAAGATTCCAACAT
 CGGAGATCGAGTTTCAAGGAGCTTCAGTACATACGTGATGGGGACAGCAATGGGGTGCTG
 CACTTTGTGGGTACATCTTATGGTAGTCATCAGTGGGTCAACCCCGTTCTCGCAAAGGTT
 AACCTCACTTTTATCTTACTTTCTTTATTCATATTGTTGGAATCCAATTACCATGACAA
 GGAATTCTGTGGAGAAAAATATTTCTTATTTGAGTTCTTTATGTTTTACAGAAAAATCA
 25 ACATTACATCGAGTAGTCCCACATCCAGATTCAGTATCCAAAGGCTTTGGCTTCAAAAG
 CCTATGCGGTATGGTCCACCCAAGTTCGCTCGGATTATATGACTAGAAATTTGGCTTGAAC
 TACAAAATTGACGAAGCATAAAATTAATTGAAGTGAACCTTCTTCTCTTAGATACAGT
 ATTTAACCATAGATTTTCAATTTTGGCACCAGGGTACTTCTTTGAGGGCCTAGGAT
 30 GGAAGACGGCCATATATCATCTGTTGGTGGTGGACTTAGGGGAAGAACATCAGGTCTC
 CTCCATAACTTCTCTTTCTACATACTCTGTTCTCATAAAGACACAAACGGTCTAAATGCT
 CCATATGTAACCCATACTCGCAGAAATAAGAGAAAATGTATTTGAGTAAACAACATTTA
 CTTTAAGTTCTGAAAATAATATAACACGGTGAGGATTCTGTTGTCAGCTTATGTGCAAC
 TATTACACCTTCAGAC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 113>:

gnm_113

ACATTACCAATGGAAGCTAATGTTGGTTTTTAAATACTCGAACCATATTATCTAGAGT
 CTTCTAGACTATTCTATCACTTAACAAACATGCAGTTTGATTACGAGTTTTTCTCGTTAC
 GGATTTAGTGATGAGCTAGTAAATGATTATTGATTGACAAAACCTATAATATGGTTAATG
 40 TTTCCATCTACCATTACGAAAAAGGTAACAAATTTTGTCACTAATCTTTCGATAAAC
 ACAAGTATGCAATTTTATTTTATTTTGTATTCTCTACATATGCTAAGAATCTTAATT
 AAAACAATAAGACCTTACACTAGTTTTGATTATTTAGAATACTTATCCACATCCCTTACT
 TTCAGTACAAATGTCATCTTCATTCTTCCCTAGACATTATTTAAGAAATATTTACGAAAT
 TTTACGAAATCAAATTAATAATTGTCATTGAGACATTTAAAAGTTTATCACTAACTAAT
 45 TCCCTAATTAGGGATAAATTTTCATTTCTTATGACATACAAACAGAAACGTGAAACACGT
 AGGCCCTCTTTGTTAACCTCCTCACATTAATAATTTGTCGTAAACATCCTCACATTAACA
 CTTTCGTGAATGTTTAGTTCTAAAGAGAAGAAAACTTTAAATATGTTTAGCATATATTTA
 GTTAACTTTGTTCTATGAAATTTAAAGTAATTCCTTATGTCTTATGACATTTAAAAGTTT
 ATCACTAAATTATAAGCGATTGATCTAC

-634-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 114>:

gnm_114

5 TCATTGTGACTAGCCAAGTAGCCATGCTGGACACTACCAAAGTGGTCTGAGCCAAGACTT
TCTACCTTTTGTTCCTAGTCTAGACAAAACTTTGCAAATAAAGTATATTAGTAGGC
TGAAATTTTCCTTGTTTCATTTATTTTCATCTACACAACTAAAAAAAATAAAAAA
ATAAAAATAAAATAAAAAATTAGGAGGTTTAGTAAATAAACGGACAATGAAAAAAAC
ACAGAAGAGAATGATTTATATATGTTAATAGTACTAAGGAACTTTGGATCCAACAGGAAA
ACGTAACTGTGGAACACCACGATCAAGTACTAAGGGGTTAATCCTTTTACTCCTCAA
10 GCGCACCATTGAACACTTTGATGGAACAATAAGCAACTCAAGAGATTAGAAGATGGGAAA
GTTTATCACTATATCAATGTATATTTGTTACCAACTCACATAGTTAAGCAATCCGAAGA
TTGTGCGACGGAAGTGATGGGCCACACGAAGGATCAATGAACACTTTGCATGAGACGATG
GCACAATCTCACTGTTTCGGAATATCAGCATGATCATCTACCATCTTTAAATCTAGGATT
TGCTTAAGTGATTTTTTCTTTCTTAACTTCGCCAAATGGATCTATAGATCTAAGGTT
15 TCTTCTTCTTCTCCCAAGGATTATATGTGGGTTTTAGTACTTCTCAAGTTATCTCGAATC
TGGTTAGTTTTACTAACTTACTATTTTACTAGCAAGGAAAAGTCCAATAATACGACTTGT
GTAGCCAAAAAAAACACGACTTGTGTAATCTGGAAATGACGATAATACCCTCGTAA
AACCTAAAACTGTGAGGAGAGAAGAAGGTGCCCTTTTTGTCCAGCAAGAATAAATCACG
TCGGCCTTCTTGGCCTTCTCCTTTGTCCAGATTTCTTCTTCAACCTCTTTCTTTGC
20 TTACCCGCCAAATTCCTTATCTTTGAAATTGCCTCATCCCTTTTCGCGTTTGGTGATTCTG
AAGATTCCGCTTCATATCCTTTTGATCTGTAAGTTTCGATTTCCGATCTCCTTCGTTTGT
TTCTGTCAAATTTGGTTAGAAATTGTTCCGAGCATTGAATTTTCTCGTACATGATCTCT
GTTTTAATCTGTGTTTGTGTTGATCAAGTTGTGAAATTCGAATTGGGTTTTGGTGGCTC
AAGGGTGTGTTTGTTCGTTAGCTAAATCCCCAACAGAGAGCTTTCAATTTAGAGATGGTG
25 GTAGTTGTAACCTTAGGCTAAACATTAATCTCTGCTCTTAAGTGTGTTGGTTTGGAT
TTTTGTTAGAAACAATGATTGGAGCATAAGTTTTTATAGAAGAATGCTTCCAAGTTAGTT
GCTTTTGTGCTATATCTTGAGGGCTTATGGTTATACAACCTATAGCTCTTTATTTGTTT
TTTGTCTCACTTTTCTGTCAAGGCTTATGTTAGTGTTCATACTTTGTTTCTTCTTTA
CAGGCTCTATAAAGACACTACTGGTTGAATTAGAATCTGTAAGAGATATTAGTGTTTT
30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 115>:

gnm_115

AGCGATGAAGGCACTACTCTTTTGGCCATCTAATCTAAATAGGCCTAGTCGAGGATA
AACCTTTGGTTCTTTTCGTTAGTTAATAGGCCTAGGATTTGTCTTGTTACTAATTAAATGT
35 TGTATAATAATGTATACATATATATATATATGTTCTTTATAGTTTCACGCTGAGACATG
AACATTAAGTGAAGCAACTTTAAACCTTGAATATAATTGAGCTTGTTATACGTGTCAGTT
TCTTATTACATCAACTGAATTTATTTATCACTGAGACATTTATTGACTCCAGTCATAAAT
AGTGCGTATATGTATAATTGTGTAAGGATGTAAGGATGTAAGGATGTAAGGATGTAAGGAT
40 AGGTAATATGTGTAGAATGCTAAAAATGAAACAAAGTACAAAAATCAGAACTTTTCAAT
GGTGTGGCATAGTGGTTACTGGCTCGGATCTACTAGGACGAGTACGATTTTCGGCCACGT
ACAGATCTAATATCACCGACCAAATTAACAGATTGTTGGAGTTTGTCCAATTTTCAAGA
AGTAGATTCAAACAATACTTTTCAAGAACGGAACAAAGATCTAAACGATATTGGAAAAGT
CTACTGTTGTAACCTTCTCAGAGACCATCCCCATCTCCGTCACTAGTAGAAGAAATTC
AAAATAATAAAAAATAAACTGAGAATAATTGATATGTCAAATAAATTAGAAGTAGCGAT
45 AACTGTCAGTGAATAGTAGAATAAATGATAGTAAATTTGGATGATTCTACATAAAACCC
CAAAGACTAGTAAATTAGTCATGACGCATTAGTGGAGAACATTTTCTACATTTAGGAAA
GATCGAAATACCACCATTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 116>:

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GNMCG19F gnm_116

CTGTTATCGTTGCGGGTATTTCTCAATCTCTCTAATTTCTATTTCTAAACTCCAAATTC
GTTTGATTTTTGACTAAAGTCTCGATCTTTTCGTGACCCCTCTTCTTGATTCTCTGTTTAG
CTCTTAGTTTGTTCATGTTCTGTTTTTTTGGACTACGTATATGGTTTCTTAGTGCGAATCT
5 TGACTCTTTTAATCTATAAAATAGGGAAAAATATGTGACTTTGGTACATAAAAGGGAAAA
AATTGAGACTTTGGTTGTAATGATTTTGTATAGATCTGCGTATGAGAGTTCTCTATTCT
GTGAACAATTTATAAGGACCAATCTGGTTGGAGGGAATGCTATTTGTGTAGCAAGGTGC
GTTTTTTGAAACTGTGTGAATATGTTTGTCTTCTATATATAGAGTTTAGTGGTGATGT
TTTGTGTGCTGATTGAGAATCTGTGAAGACAGAGACTACATTGTGG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 117>:

GNMCG20F gnm_117

ATCCCCATCTTCATCAGCTCACTTCTCAACGCTTCGCTCTTCTCCGCTAACGTATATCA
GCTTGAGTTGGCTACGTGTCTTTAAAGCTTCAGGGAGAACAACTACTGCTCTTTCTTCT
15 TGTTCTGCGACTCCACTTCTTAGCTTTAACTGATCGTAGTAAAGAGCGTGAAGAACAATG
TTTACTGGTAATCTCTTGTCTGTGAAGCGTGAAGACGTGCGTCGTAAGAAAGCTTTAAG
GGATCCATTGAGCTACACACTTTTCCCTTTTCGATCTCGTCTAGATTCCGGATGAGCTTTC
AAGAAGATGTCTATAGCTCTGTAGAGATCGTCTGCTGATTTTCTAGCGGATTTCCGGGACA
AGATTCGCAATCGCGTTGAATTTGGAGATTGTTAGGTCTCCGTAAGTAGCGATCTCCGCT
20 AAGTAAGAATCAACTGTTTTAGCTACTCTTTGTAGTGAAACAGAGCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 118>:

gnm_118

TTTTTTTTTTTTGGGTGAATTTTTTTTTTTGTTTCAATTTAATTTATCGATGTGAAAAAT
25 TAAACTTTTATGGGTGAGATAGAGAGAGAAAGAGGGAGAGAGCATTCAAGTGAACGAA
CGCATAAAATGCATGCACGACACTTGAAGACACACAAAACTCGAAAAGTAAGAAAAAT
CGCAGAGATTTAGAACAGACACAAAGTGAAGACTTTGGTTTTTTTTTTGACTTTGTAAAG
ATATGTTTTTTTTGGTATATAATATATATAGAAATGAAATTTAGGGTTGGTAGGAATCATA
TATTTTGGAAAAAAATAGTATGGTGACGTAATTTAATATTTGGTTATATGTATTCAAC
30 TAATTTATAGGTATTTTCTTTCTACAGTTGGGGTATTATTTATATAAGGAAATATTGAT
TATTTTCATCAAGAAAAGAAAGAATTATTCAATAGAAACATATATGTTTCTTTTGCAAAT
CATAAATATATAGAGTGCATGCATGACACTAACACACACATGCACAAAAGACTTTGAGGT
TCTTCTTTTCTCTTTGACTTTCTTGGTTTGTATTGTCAATTACTCTAAGAAATCATT
TTAATTTAAGTTTGTAAAAGTTATAAAAATTATCCTAAGAAAAGAAAATAATAGTACATA
35 AATTCTACTTATCTAATTAAGATTATAATAGAAATTTGCGATCGCGTACATGTATATGC
TATATACTCTACCTGTCGTCATTCTCTGTATATGTATTCTAACCAAATTTGAGTTCCGAA
TACCCTAAACTTAGAGTGGATTGAGACCGATAGATAAGTAAAAATGACGATTCATATC
AAACATGTAGTCTTATGGTAGAATATATATCCAAAATAAGATACCAAATTTATAGAGAA
CTTGCAAACGAAATGGGAAGAATTGGTGGAATATAAACTAAAAATTCATTCTTGCTTAAA
40 TTGAATTTTTTTTCTACACTGAAGAAAACAAAATTAGTttAtACCATCGACAAAAGA
AATATGCAAAAAATCAACACAATATATTTTGTAGGATTTGTTTATTTTTTGTAACTACT
TTGAAGGATTTGTAGTTAATTGAATATATATATATATATAATATATTATGTTTTTTTT
TTTGCCATTTTACTACATTTAACCATAACTTGCTATTTATGGAGTCCAATAGTCCATGC
GCATGATAACATACAGTATAAGTGTTACACGATTTTATATATGCATGTGATTTTCTGT
45 CAAATAACACGTTACTACCAAGAATATATCATCTATTTGTTCTAACTTTTACTCATGCA
TGCTCTATTCACCTTCGTATTTCCCATTAATCTTTAATCTTTTCTATCTAATTAGTTCAA
ATTTAAATCTAACTAAATGACACCATATCTTTTGAATCGCTCTTTTGGGTGGAATC
TTCTATATTATCAACGAGCTACTATTAAGTTACTACGTTTTTTTCACTCCCTTTTTTGACC
TTATATATAGCTAGGCTTGTAACACCTATCGAGTAATTGACTACTGTTGGAACGAGTAAA

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AAACTTATAAGTTTAACTCAGTGTAATGTCGCCGTCTGGGTAAAAAGAGTGGTAATC
TATGTATTAACTAAATTCATTATACACTTATGGAATTTCTTGTTGACAGCAAAATAT
ATAGACATAATCCATTTT

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 119>:

gnm_119

TTGTCCAACATCTACTATACTTATGTGAAAAATACATACATATGCCCAAATTTGTTATC
AAACCAAAATGTTCTGGAAATAGCCCATTTGGACATCTATTTATAAAATTGCATACACTTT
10 AGCTAAAAAAAAGTACTTCAGTTTGTGTTAGAAATATCAAATTCAGAATTTATTTTGA
AAGAATTGTGTGCAGAATATCAAAGAAATTTGAAATAATTCAGAATTGTGTACACAATA
TCAAAAAATCCATTTGCAAAATGCTTTGTACACTTGTGTTTGGCTTGTATTTTATTTT
AAAAGTATGATATGTAAATAAATAGGAAGTGTAGGATTATTCTTTTCTGTCTAATAA
AAAATAAAAAAATCATATGCATTTATGAAGATAATTAAACTTTTAAATACTTTTAAAT
ATTTACATACATATTATCCATTTCTCATTCCAAAAAAGAGTTTAATTCTCAGTTTCAGAA
15 TAAATGTGGGCCTTATACAGATTTAGTTGGCCCATTAATGTACAGGTGACAATAATCCA
CCAACCTCGTTTCTCCTGACACAAAAATATCTCATCATGTCTTCTTCTCGTATTCGTGT
CTCTCATTTCTTTTTTGAATCTTCTTCCAAAAAGGATTAGATCTGACTCACTATTACG
TGTCACGCACAGTTCATTAGGTACGCTCGGAAATTTTATCCACACATCTAAATATCTGA
TTTATGATCAATCACCCATTTTATTTTCTTTTGTAGCTTCTCAAATCTTTTGTCTCT
20 TAATCGATTTAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 120>:

GNMCG24R gnm_120

CAGTCAGGTTACTAATAAACTTTTCATTATCCCTTCTTTGTTATATTACTAATAGACCAAA
25 AACATTTCAAGTACTCAGTGCCGATGTAGAGCCTAAGAAGAAGCTAAAGCACATTGTCAT
GGCGGTACAAGTGAGTCTAAAAACAAGTGTCTCTTTAATGATTCTTCCCAAAATGA
TTGTTTGTCTTGGTTAATATATAGGGAACAGAGGTTTGAGAGGGTGACTAAAAATCTA
AAAGTGGCAAGAGTGTTTAACACATTGGTAGAGGAAATGAAAGCAATGGGGATCGCATCT
30 GTTGATGACTCAGAGTGTACAGAAGTTATGGCTCCAGTTGCACACAAGGACCGAAGCCCG
GTTCTACTTCTTATGGGAGGTGGTATGGGTGCAGGAAAGAGCACTGTGCTTAAAGACATT
CTCAAAGAGTAAGTAAAGTATCAACATATCTGTCATTAATCAGTGTCTTATGCATTGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 121>:

GNMCG25R gnm_121

ATATAAGAGTTAATCTTATAAATAGTTTCTGAACTTAATATACTATAACAATGTAAAA
35 GTCGTCGCTTTGTTATTTGAAGTGAAAATTAAGCAATGTTATGATATTTTACTAATTAA
CTCAATATGAAAAACAAAAATCCTCTTAACTAAAACAGAAACATAAAAAGACGACTTAGTT
TTTGCTTTAGATCTAGACTCATAACTCAAAAAACAATTTTCATTATAAACTTTTGTAGATC
TTACAATTTTAAATAAAATGTACATTAATGTTGAAAAGCAAAATCTTAAATTAGTGTAT
40 ACTACTACTTTTTTTTATCACCGTGATAGATCATTAGATCCTTAACCTCAATCCCTAGA
GCCTGCTTATTGCCTTTAAGCATTGTGCAATCACTACCAACACACTCAAACTAAATAA
ATATAATTTATACTTATCAAATAAAATAAATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 122>:

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gnm_122

CCTCGAATTTGTTTTATTTTTTCATTAATCAGACCAGACACAGTTGGGATAAAATGAAAG
GGGCTTGAGGAGTGAGGACGGAGAACCACACGTGTCCACACAGTTGTGATAATTTTTTTA
5 TTCAACAATAAAATTGCAAGAGACGAGTTTGGTAAGTAAATCCGGTTGAACCGGTCCGAC
CGGTATTGACCGAAACATACAATCTTTTATAGTCTTCACACATTGTTCCCAACTTTAAAC
TTAGAAACCTTAGATGTTGTATTCAATAATTGTCAAACCACAAGTACTGACAGATACAGA
TTTTAAACATTTTTGTTTGGATCAATTTAACTAGATCTGTTCAATTCACCTGAAAACAAGT
CTCTACAGAGTTCTCCATAAAATCTTGAGACAAGTTCAATGAAGACAGGACTCTTAAGAT
TCTTCCAACAGAAGAGAAGTTCTCTATGTCCATTAAGTCATCTATTTTCCCTTCTTCAA
10 CAATCAGATGAATCAGATAGTTTTCAAGCTTCTACAAGCATCTCCACAGCATTGTCTT
CAAATGTATCTCTTGGCTTCAGCGATTTCTGGTCCGTGAAGAGTAAGGTGTCGTGATGG
GTGAAGTGAAGAGCTTCTGGCTGTTGCTGGCGTAAGAGGTGATTGCATAAACTTGGAGT
AATCATCATCGTTCACACTAACTGCAATGGCAAAATAAGAGAACAAAGAGATCAAGAAGC
TGATAAAATTTCAATGTTAAACAGATTTGTAGCGAAGTTGTCTTACAAGAGGAACTTC
15 TATGTTTGGCGTTGCTCATCTTAAGGTTCTGCTTGAATTGAGGAAACAGAGACAAGAAC
AG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 123>:

gnm_123

CCAGTGATCTTATTTTATTATGGTGAAAGTTGGAACCTCTCACGTGCCGATCAACGTCTC
ATTTTCGCCAAAAGTTGGCCCAGGGCTTCCCAGGTATCAACAGGGACACCAGGATTTATTT
ATTCTGCGAAGTGATCTTCCGTCACAGGTATTTATTCGCGATAAGCTCATGGAGCGGCGT
AACCGTCGCACAGGAAGGACAGAGAAAGCGCGGATCTGGGAAGTGACGGACAGAACGGTC
AGGACCTGGATTGGGGArGCGGTTGCCGCCGCTGCTGCTGACGGTGTGACGTTCTCTGTT
25 CCGGTCACACCACATACGTTCCGCCATTCTATGCGATGCACATGCTGTATGCCGGTATA
CCGCTGAAAGTTCTGCAAAGCCTGATGGGACATAAGTCCATCAGTTCAACGGAAGTCTAC
ACGAAGGTTTTTTCGCTGGATGTGGCTGCCCGGCACCGGTTGCGATGCCGGAG
TCTGATGCGGTTGCGATGCTGAAACAATTATCCTGAGAATAAATGCCTTGGCCTTTATAT
GGAAATGTGGAAGTGAAGTGGATATGCTGTTTTTGTCTGTCAAACAGAGAAGCTGGCTGTT
30 ATCCACTGAGAAGCGAACGAACAGTCGGGAAAATCTCCATTATCGTAGAGATCCGCAT
TATTAATCTCAGGAGCCTGTGTAGCGTTTATAGGAAGTAGTGTTCTGTCTATGATGCCTGC
AAGCGGTAACGAAAACGATTTGAATATGCCTTCAGGAACAATAGAAATCTTCGTGCGGTG
TTACGTTGAAGTGGAGCGaATTATGTCAGCAATGGACAGAACCAATGAACACAGAA
CCATGATGTGGTCTGTCTTTTACAGCCAGTAGTGCTCGCCGAGTCGAGCGACAGGGCG
35 AACTcGmAGTgAGCGAGGAAGCACCAGGGAACAGCACTTATATATTCTGCTTACACACGA
TGCCTGAAAAAATTTCCCTTGGGGTaTCCACTTATCCACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 124>:

GNMCG27R gnm_124

CAGTAGAGGCCATACCAATTATCGGCCTTGCTATAATGGATTTGGTGGAAGGAGTCCGAT
AATCTAACTTGCATCTAATAAATTCAAACCTTGGCAGCGAGCCAACCTTGCAATGAACCTCA
AACATTATGCTATTCTTTACTTAAACTTTTGATCTGAGAAATTGTTTGTTTTTATG
TAAGTTGGTCGCCTTTATTACAAAAGATTTGTTCTTACTTGATAGTTACTATCTATTGA
AATGAAACAAGTTCTTATATCACTTTTATGCAGTTGTAGGAAATGCATTTATGAGAAAA
45 TCACAGAGGATGAGATAGAGAGCTGTCCAGTATGCGATATTGACCTCGGGGGGTACCCAA
CTGGAGAACTAAGGTAAGTTCTTCTTCTTTATTTCCTTACACAATTTTCTCCTCGGT
CTTGGTTTAGCAGTGATTCCTTGATAGACTGTTAGAAGCCTTTTGG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 125>:

gnm_125

```
5 TAATTGGAAACGCGGCCAAGAAAGTGAACACGCTTCTCTACACGTCTTTAACTCCACAG
CTACTTATGACTCACCTGCTTATTTTAACTCTCTCAAAAGTCTTTCCTTTTTTTACAATT
TTTTCCAAAGACTCAATAATTGTGGTATGATATGGAAGAGAGCATTAAATGGCGTATCTTC
AACGCCCAAGATTTTGCATGTGGCTCTATCGTGATTGAGTTTGGATCCATCTCTCTAGG
TATAGAAAAGAGAAAGAGATCAAACCAACCTTTAACAACTTATGGACGTAACATATCAC
TTACAAGCCAAGTCAATGATGAAGAAAACATAGACTGATGATGTGAAGAAAAAAAAGG
10 TAGATAACTTGTGGGATTCTTGATGTTAAGTTTAGAGAAAACAAAGTTGAGTCACTTCTCT
CTTTCTATGTATTTCATCAATCTACAACGAGTAAATTAGCAACAACAAAAGGAACAGAAC
AAAACAAAGATCAGAGGGTCTTTGTGTATCAATAGCTCTCATTGTTTTTCATTTCGGAAG
ATTCGAACATCGCACGCTGGTTTGAGACCATTATCACATCACTCTGCTTCACACTCTCG
CACGCAATAACAATTGGTATATGAACCTTAAATCCCAACCAATCAACACTCAGTTTCCCT
15 CTCAAGAACACATCAACCAAGCTTCAAGCGTCTTCTCTTTGTTTGTGAGCAATGTAGCA
TCAACATCATACACTTTGGATTTCTGAGTCTTGTGAGGATCTTCAAGGAGGTAACATTT
CCCGGCTCCTGTTGAATCCAGAAAGTGCTTCTTTCCGAGGTTTATGTTCTCAGAAAGAT
ATATCAGCTTTTCATAGGACTGTAATATAGCACCGTCTTGTGTCATTATTATTAGAGAGCTGA
AGCACCGTGTTCAAGTTCGCATTTCATCAGAAGATCTGTGATGATTTGGCGATATCCAAT
20 CTCGAGAACTTGAGGTTTGTGACAAGCACCTGAGGTAGTATAGATTTGATTGAAGAGTTT
GCAGACAATCTTACCAACAAGACGATTATAAGGACAACAGAAAACAAACATGCAGGTGCAA
GCGCAGCATTTTCTGAAACATCCAGAGGCGCATATTCTCTTGTCTCTGACCGATATGA
TCCACAAAGGAACCGATTTTCTACTCCGATCGGCCTCTTCTCTCTCGAAAGCCAGAC
AGTCTCGACGCAGAAAGGAGGCGCTTAAAGACGAAGCCTTTTTCGGGTTTTCAACATCA
25 TCAAACCTGTTTCGAGAAATGGAAGGGCTTGAGAATCTTGAACCTCAGATCAAAAGAACCT
TTGCCATAGCTACTATCTTCCGG
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 126>:

gnm_126

```
30 TATTTTTCCCCATAATTTAATTCATGAAACTGACTTGGATAGTCCGAACCACTAGATTA
GATTTCGCATCATACAAGTACAACCTGGATTATAAACTGAAATAGAAATTCAACTATAAAA
TTCAAAGCACGTAATGAACCTTCTTCTTTTTCACCTATTGTGTTTCCATATAATTCCACA
AATGACATTTTTTAACTGGTAGTGAGGATAATAGGATATGATGATTCTCAAATTTCGAAT
ATTTGTATATTGGTTGTAAAAACATTCGGATAAGTCACAAACATATAAATCAGCATAAC
35 CTTGGAAAAAATTACGTTTGAAATCTAGACTAATACATCCAATCCAATGATTAGTTTGA
ACTACATGCATAATTGCATACTAAATAATGATCAAGTATACTAAATTCTGGAGTTTGATA
TGATTAAGCGmAkstTAATGTTTCGGCCATGTGAAACCTCGTCTTAGAATAGTTGTCATC
ACGCGATGTTGGCTAACGTAACAAGAATCATCAATCTCGTACCACACATGTTGCACATGA
GAAACAAACAGCCGCAATATTCTTGATTACCTTCTTCTTTTCTCTTTTAAACAAAAAC
40 ATAAGCTGCAATATTCTTAATTCACACTCGGGACCAAAACATGTTAAAGAGTTATTGTTT
TGTCATTGGTATTCAACTCGTGATCTTGAAGATTTTTTTTTTCTCTGGTCACAACATCA
TAATCATGTTATTTCTAATATTTATGTATACTTAGAAATAAATAATATAGTTAGGATAT
TTTTTAAGTAATTAATTAACATGCAAAGGATTTGTAGGACGGCATGTAAGAAACAGAAT
CAACTGATAGAACTGCAATAATGCCTGATACACACACAGCTGTAATTGGGGCTCACG
45 TCCCAGCTTGCAATAGACATTTTTTGTGTTATCTTATTCATAAAATATATAATTACAAT
ACTAATATCATGGCATCTCATTACCCCTCATATAATTAAAGTATAAAAAACAATAAAGT
ATACCACATTTCTAAAAGAAAAGTACGCATTATGAACCTTTATTAACCTCAAATATCGAGTA
TCAGAGTAAAAATATGTCATATATAAGCCATATAGGCTTTTGTGAAAATCAACGGCATGT
GTTAATGTTACAGGAATGAATTTGGAATCTTTAAAGGGGAAAAAAAACAAAAATGAAAC
50 TCACTATGCAAAAAACCATGTCTACCTAAATTTGGTCACAAACATGTTTTACGTGATTAT
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ATTTGCCTTCATGAAGTATAGACCAACAAGAACGTCTCAAATAGTAAAGACAGAACGTGG
GTAAGTGACAAACACGGTTGCATGTAAAAGGTAGGTACAAACGCTATATCGACAACCAGA
TATGGTTGGTGTATATCTGTGTAACCTAGTGGTGCATGCTCAATGAAGATATAACCA
5 AAAATAACACTTTTTTCCTTATGCTTAAGAAACATATCAGATTGGTGATAACTTGAAC
AAAGACCCAAGATATGGATATGAATTTCTTACCTAAGTTTTTAAAGAGTCAAGAAGCAAT
GCCTTGTTAAAACAAACGAGCTGAAGTGTGCGTCTTTCCAGCATTATCATTTGTTGGAAC
GGGTCTCTACTTGTCTTTCTCCTGATTCTGTCTCAAGATTCATATGTTAGCTTTTTGTA
ATAATCTAGGTAATAAAACAAATTATCTTAGCAAACAGAAATTAATTTACCTCTGTTCT
10 TTGGTGACGAGCTTCCATGACCTCCTTGTGGGGTTACATCTAACAACACTTAAGAAATT
TTTATGTGTCTAGTGTAAACATATTGTAAGAGATGTTAGTGAAGAACACAAAGAAGTGTGTG
ACAATGTTACCCGTACATACTCATTTTCGTCTGAGAGGCTCTTGCATGGATGATGAGG
TCTCATCTCCCTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 127>:

15 **gnm_127**

CCCTGCCTTTGCGAACTTGGATAATCGATATTCCTTTTTTAAAGATGTGATCTTCGAGT
TGGTGAATCTGAAATACAGAAAAACCAAGGAATTAGCAATAAATAGGCAAAACCCAGT
AATTCCAACAAATATGTAGATAAATCACAAATATTTCTCCAACCTCAAACACCAACAACA
GAGGAAACTAAGAGATACTGAAAGAAAGTGAACATAAACTTAAGAGATATGATTAGAAC
20 TTCCAAAAGAAATGATATGAAACACTGAGTCAATGAACCTCCAAAAGACATACGCTTAGAC
TATAATTATTTTATGAATACAATAACAAGGTCAAATGAAAATTCTTTGATAAAAGCATA
TATGCGTGTTAGCTGTTATTCCTAATTTAGTTGAGATAAACCACCTCTAATGTTGGACC
TCCAGGTCGTTTCCAGGTAATCCCTAAAACGCAGAAGACTTTTAATGTCAAAGGCACAG
TATCACCATCATAAAGTGACGAAATAAGAGAGTTTGAAGACTACCTCTTCTTTTCTAT
25 GGTGTTCTGTAGAAGAGCGACTCTCAGTGCAATCATTGCAATATTTCAGGAAATCAGGGT
TCAAATCTCCTTTTGGCATGGCTGTTTCGGCCTTCCAGTAAAAACTATCTTCCCGTCAT
CAAGAAAGCGGGCTTAGCTGGTTAAGGAAGGACAAGAAATCAAATTCATACATCTTTTT
ACTTGATCTCGTGAGGAAAGAAAGAACAGGTGCACATATCTTATATCAGAAAAGATTCC
CTATAGTTTCATATCACACCACATGAAATTGTGTAATATTTACTAAGAAGTGACATGCTAC
30 TTTGATCAAGTCATGTTTTCCATAAATTTCAGAAGGTAGTGGGTTGCATAGATGGTGATT
TGTGAATGAAAAGAAAATAAACCTTTTGCATAAGACATTACCATTCCATTATCGTCAGA
GAACCTGCTGTTGTTGAAATCTGCAACGTCACAGAAGTAATTTCTAGAGTCGCTATATTG
TTTGTGCAAGTGATCACTGAAAGTTTGAGTTTTGCTTTCTGCCCCATCTTTAGCATG
TATGCCAATTGGAGACCTATAAAGGCTGTCATCTTGGAACATTTTGCTACTTTGAATCAT
35 TGTGTCTGTAAAGAGGGAGATGAAAATATCCGGTCAGGAAAAAGAGTTAGAAATGAATG
GAAGACAGCTAAAAGATAAGATGACGAGACTTTGTTACCACTTCGTTCTCAAAGTCGTTG
AGCCTTCCCCTGACATGTGATGTATCTGGTTGACCAGTATCCTTCCATGGAGAGGAGCAC
CGGTACACAAAAGTTCTTTTACATCACAAGTTAAATAAAATCACTGATCTATATCTTAAG
TGGTACATATTACTGCTAATGTAAGAGAAAACAGTATAAATAAAATAAAAGGAAAAACAA
40 CAAAATGCAACAAGTCCCAAGAAAAAAAATACTCGTGAATGCTAATCACC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 128>:

GNMCG29F gnm_128

CCATACATCCAGTTCCACACAAAACCTGAGTGGAACAAACAGAAACCTGACCGGAAGAAA
45 GTGGTGAGGATGGTGAAGAGATTGTTATCAGACCACCTAGGGATTTAAGACAACCACCAC
GGCCAAAGAAGAGGAGAAGTCAAGGAGAGGACCGTGGACGTCAAAAGCGGGTTGTTTCGAT
GTAGCCGGTGTAATCAGGCTGGCCATTTGAGAACAACTTGACAGCTCCTATATGAAAAA
CATATGACATCTCTCTTTAGATGTTTTACTTCTTCTCTGATCTGAATTTATTATTTCTTA
TACTTAGGTTTAGAATATTATTTTCAAAGCCTTTCTCTG

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5 GCTGATCTAAAAAGGATAGAAACAGTAACCGCCGTGAAAGCAGCCTTAGCATCCTCAGAA
CAAACACTCAAAGCTTATTAACCCATCCACTTCCTCCATTCCGATTCCCTTATCATCA
TCATCATCACAACACTGTTCCCTCTTTATCCACGTCATCAATCACCGGTGGATTCTTAATC
CATTTGACCCCTTGAAGAAACGGAATAATAGAAGAAGCCTTGAAAGATGAAACCCCCAGA
ACATTTCATCGTTGACGACTCATGACCCGTCGTTGACTTCAATATCGAGATCAAACCCATC
ACAAGCGGGCTTTGACTTCCTTCTCCGATGAGCTCCCTCGCGATGCTACCATACATCGAT
GCAGGTCGATTCCGAGGAGATCTATCGAAATCACGCTTGTGGGGAGAAGAATCTAGGACG
AACCAAGGATTCAAAGCAGTAACCACCGGGACCAAC

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 132>:

gnm_132

15 CAGCCATTAATGTTAACATTTCTTTATGTACATTTCTGATCTTTGGTTGTGTGTTTTCTC
TCATCTATAGGTGCGACTTCAACTGGAAACACTGTTAGCTGAGAAAGCACGGTTGGCTCA
TGAAAACCTCGATATACACCCGCGAAAACCTCTATCTGAGAGGAGTCGTGGAATATCACCA
GCTAACAAATGCAAGATGTGGTCTACTTTGATGAGAAGACTGAAGAAGTAACGGAGGTATA
TCCCATTAATGTGTCTTCAATGTCTTCTTCATCAGATAACTCTTACAATCCAAATCCAAG
TTTCTTGGAGCTCAAATGAAACACCACAACACTATCAGTTTCTGCTGTTCTTGTGTGA
ATCAGACAAGAAGACAAATCGTTGGCTGTAATTGCTCTGTATTTGTAGAAATATATATAC
TCTGTACTCTTTATwTGGGGTGGGGTCTTAAGAATTAGCAGTGAATGtAtTTATTACCCCT
20 TAATTAACCTAAATAAAGAAGAATGTTCTATTATTTCCCTGAAACAGTACCATGAAAGC
TAAAAGTTGAACTGGTGAGTAGAAATTAGTCAATTATTAAATGGATATTACCTGAAATTAC
AGAACAACAATATATATATAAAGCTACATTAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 133>:

25 **GNMCG36R gnm_133**

30 AAGCCTTTTGGCTCTTACTGTTGATGAAACGAATTTTCTTACATAATGCTGAAAAGTTGT
ACATGATTATGCTGAGGTGTGCCACATATGGAAGGTTCTCCGTAATTTTGTGGCATAG
TGTGAAGTTAATCAAGAAAAGTCATTCGATTGAGAAGCAGTTATGACCTGAATATGTTG
GCTAGTTTAACTCTTCGCTGACACCAACAATTTTTTGTAGAACCTGAAACAAATCTCT
TtagTACTACACTCTCTTACTAGTTGGTCACCAGTAAGAGCTTTGTTGGTGGCGAACT
TATTCATTTTCTAAAGAACCCTCTTATGTATTTATTTAGGCCTGACCACATTTTGCAA
GACTTGAGAGCCAAATATTTTCTTAAAACGTAAAAGGAGAGAGCGCCTGAAGTTGTG
TCCTCCATCTCATTACCTGCAAAGAGGAAGGAGAGGTCTATCTCGTCTTTGGTGGTAAGC
ACACCCAGGGTTTCAGCACAAAGCTGGTACAACAGGAAAAAGAACAAGCTGCTACGAGA
35 AAAGATGTAAGAGGTAGTGGTTCATTCATAAGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 134>:

GNMCG36F gnm_134

40 CCATTATTGTTTTTCTACTTGTAAGTGTGTTTAGAAATATATTGATTGTAAAGAAAAAATT
GTTTTTTAGATATTATTTTTTTAATTACAAAATTAGTAAACCTCACTATAAATTAATAAT
TATTAAAATTATCGATAAATTAATATATTTATGAATATATAGAATTTTCGTTTCTAATA
TTATTAATTTGTAGAGGTTTTATCGTAATTGTTTTGGTAAATGATTTAACCTCTTAAT
TAATCTCCTTATACCATTTACAAGTCTACTTCATGCAGTTTTCAACAACCTGTCATAATTT
GTGTTTAAACAATATTATAAGAAACAACCTTTTAAAAAATTAACCAACTAGGCATTTGGT
45 TGAAAACAATTACAAAAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 135>:

gnm_135

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5  TACATCAACTCCGTGAGACTTTTGCATTGCTACTTGGAGCTCTACGGTTACTTCCGTTG
   AAGCGCTCTGCAATGAATGACCTTTTGACTGTTTCTACTACACACGTTTTTGACGTTTAT
   CCTGTTTACCTTTTGTCTTGTACTACAGTGATCTTTGAACCTGAAAGTGTCTCAATA
   TATGTTAAACTTGATTCCAGTTAGATTGTTTTGGTTTTTATACAAGAGATTGGCCTATG
   GCTGTGGAGTAATGAGTTATACTTTGTTTTTATGACTCGGTTTAAGAATCTCTTGCATA
   AAAGTGCAsAAGCAsACTCTTTTTTGACAAAAAAAGTATCACAAACAGAGTAAATCAAG
10  ACCTAGACGAAAAGCGAAAAATGACAAAAGCCACAAGAGTTGTGGTAAGCAAAATGTTTG
   GGAACCGCTCGAATCTTTTAAAGCATTGGACATCCATGAGTCCGGCGGCAATGATGTG
   TAGAAGGGTATGTCACAATCTTTGGAGCAGAATCCGAATGTGGAAGTGAACCATATTCT
   CTACGAAATGAGATAAAACACGAATGTCTGCAGCGATAAAATGGACTTCGTTTGTCTG
   GATTATATTTGAACAGCCTCTTTTCACTGTCATGGAAGAAAAGATTCCCTTGCTTAGAAA
15  CTGTCACCTGGTCTACACCACAACCTCCATATCCAAGGGTGAAGAGCTCTAGGGAATAAAN
   CAAATGAGTACGTCTTGGTCCATGTATCTTCCGGATA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 136>:

GNMCG37F gnm_136

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20  CCTAGAAAATTTTCCTTATAGAGATATATACAGACAGTAACAAATAACTTTCTAAATTAA
   CTCTTCTTATCACATATATACTGAAAATGTAACCAAATACAACTGGATCCAACCTCAT
   ATATACGTCAAATGTTTTCCAATTCAAAATCTAACCCAACACAAATTAAGAACGCTAAAT
   TGATCTATAGCTAAATGTCATTACACAAGTAAAAAGAAACCGTTTTGTAAAGTTATAATC
   AATCTGACCATAGTCTAATTTATTTTCGTCACAAATATTTCTAAACGATGATCTCTTAA
25  ATGTTAAAATTCATCATATATTTATACCCAAACAAAGCGGCTAAGTAAGTAGGAACCT
   TTAACACAACCATAAATAGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 137>:

gnm_137

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30  TGTGTGCTCGCATTACGACATAAAAATGTAATTTGAGTTTTATTTCAATTTCTTTGACAAA
   AAAAAAAAAAAGTTTTATTTCAATTTATTTACCCTTTTTATAGATATAAAATATGTAA
   ATCAAACCTTTTATATCGTACAATTTAAGTATATATTTGTGTTTTATTATGTCAAGTTCA
   TTCATTAATTTTAAATTTGATACAACAAAAGAATAATGTAGAAAGTCAAGTATACAATGA
   TGGATGAATGGATTTACATAATGCTTTTTTGGTACGTAAACGTTAGTATTTGCTAACAAA
35  GTATTAGTTGCGTTATTTTTTTTCAGAACAAATCAATCCTAATTTTAAATATTTTATTAAA
   AACACTATGATACATATTAATTTACATTATAATTTGTTATTGAAAATAAAAACGGAGCAA
   TTTTGTCAAGGTTTTTTTTTTGTCAACCACACAAAATGGTTTACAAATTACAATGTAA
   CTTTAAAAAATGGTATACAACCTACACTAACAACCATAGGTCACAAGAAACCACTTGCT
   ATTTTTTCTAGATCCAAATTTACAAATTTAAAACCAACACAAATTTCTAGAAGGAATCAA
40  TATTTGGAATGCCATTTAATAAACTTTAACTGTTATTTTAAATATATTGAATTTAAAA
   CGAACTTTGAATGTTTGTGTAGTTTGTAGACGAACAACTAATTTGTCAAGTTAGCTAGGTG
   ATCAAGATAGAAAAAGTTTCGTGTGAATCATATTTGTTCATGAAAATTTGGTGTAGTTT
   ATGGTTATGAGGTTATCTCATATCTATGTATAAAATTAGAATGTAGAATTTGTCTGACA
   TACTTGTTTAAACTTAAATATGATACATATATCACCTATTCTTTTAAATCTTAACT
45  TTATAATCCAAAACGCAAGATCATTTAGGCCATTGATTTGAATATTTGTGCTTATGT
   TCACTCAGAAGTCAGAAACCATACCATATCATGTCTTTTGCTGAAACTCATAAGCCAA
   CTGTGGTAGGGGAGGAATTTGCAACAGTGGTCTCTCTCTCTCAGAGTTCATTCTTCCC

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TTCTTCACAGAAAAAAAAAACCCCTTAAGGATTAAATCTCATCACTGTTTCTTTCTTCTT
TAATCACATCTCAGTTTTATGTGTGAGTGGTCTCTCTACCTTCAACGATTATCCAAT
GTTCTTCATGCATATATATAAAC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 138>:

gnm_138

ACTAGATACCTCGAATAGTTCCTGTGGAATCAAACCAGAATTAGTAGACACATAATCTTA
CCAAATGTGAAACAAGGGTGCTAATAAGGGCCTTGTTACAGATCACGATCGAAACAGAGG
ACACAACGGATAAACTCAAAGCGCCGATTGTTCCAAGCTGGAACCTCTGGGCATCGCTCA
10 TATTTGCTCGCTTCTTCTATCACGATCTACGATGATCTAATAAAACCAACAATTACAGTA
TGGAGGAATCAAACCTCACATCACATGCTTAGCCAATCAAACCAAAAGTAACTGTAAGAG
CAACGCGrAGAAGAAAAAAGGAACCTCATTTACGAAAATGCGAGAGAATTCAAAGCAGGA
GAAGCTGAACTGCACCAATGGAAGATAATAACAACACGTCAAAATTACAAGCAGAACAAGG
ATAGTGTAAGTCGAAGAATCCTGAAGCAATAAACCTAGATCTATCGATGAAGATAAAA
15 AATAGTTTAACGGAGATTCAAGGAGAAGAAAAGGAGAGAAAATGGAGAGAGAGACCTTGAG
AGAATCAGACAAGTTCTAATGGAGGAGAAGAGAATCTGTGAATTTGGAAGAAGAAGCCTA
TTTTTGTAATTCCAAGAGATTCACCATACGTCAAATTTGGGCCTATATGTAATTAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 139>:

20 **gnm_139**

CCATCTCTCAAACCTCTTCAACGAGCTTAATGAAGAGAGAATCAGCACCAGGCTCTTCAGA
GAAGAAGCTGTATGTCTTCTCACAGCTGCCTGATTTCTTATGTACTCATTAGCTAA
TTTGCAGAGATGAGGACATTCTCTCCTGTCCTTGAATCCCATCTGCCGCACTACAAAAGA
CACAAACAACATTTCTTAAATATGCATCATAATCTAAGATCAGGAAGATTTCAAGGAAGC
25 TATGTAGATTGATTTTACCAACATAGTGAGAGAATCTCTCAAGCTTCTCATGGCCTTTGT
GTTTTTGAGACGATCTGAGACGAGGGATGTTCTTGGAGTGACGTAGCTTCCTTAGACGGA
AGTGCAGTGCAAGGGCTAAGAGTAAGCCAATGGATGAGATTACTAAATCTGTGCGAAGG
TCGTCGTGTTGTTGTTGCTGTTAACTCTGGAACACACATTGATCTGGATTTGCTTTGGG
GATCATCAAGAGACATGAGATTAAGATTGTTAGAATCTAAGATTGGGTCCATTCTTGAG
30 TTTGTTTTCTGTACGAGACAATGTATCTGCTTTCTCCACGTGTGTTGTACTAAAATAGC
TTTGAGTCCTATTACTCCGGAAGTTTCTTAGTTTGCTTTTGTGTGATTTGACTCACCAT
TTTGTTTTAATAACCAACTCTCATCCCCAATGTATGATATAATAGTGTTTGGCAATGG
TTTTATAAAATCTATTCTGTTAAGGCTATAACATAACAAGAATCTGTC

- 35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 140>:

GNMCG42F gnm_140

CCTGCAAGCAGAGACGTCTAGAGGATTGATTACGTATCCTACAAGTAAGAAATAGAAGTT
ACCGGCGACATTGATGTTCTCGACGATGTAAAGAACATTGTCCTCGTTGATTTCTCCCTT
CTGCTCAGCTTCAAGGATGTGATCAATGGCACATTTCAATCCTTCACTACCTGTAGGCTT
40 AGAACTCGCAATTTGCCTGTAAGAAATGAATCATCAATGTCAATTTCCCAAAATCAAACCTC
AAAAGATAAACTAAAAATAGAAACAAAAAATGAACTCACTTCTCTCATCAACAAAGT
ACTTCTTGAAAAGAGCGATTCTTCGATCTTTACATCTTGACAAATCTTCAAATAGCCTC
TGAGGAATGGTCTAAGGATAGGAATGAAATCTCCATAGTTATACTCnAAGCTCTGAGCTA
ATCGACTTCTCTCACCATTCAAAGCCTTAAGCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 141>:

gnm_141

5 CTTCTGTTTTATATGAGGTATCCACTCGGTCTAATATGGAAACACATAGACCGTAGTTCT
ATACATTGGTTCAAGTCTTGTGCTTATCAATATGACTGTAAGGTCCCCATAAATGTTTAA
ACTAAAGTTAACTCTCCCTTTTATTTCCGACTTGTGTACCGGGTGATATCTTATGATCTG
GGACTTTTTTCGACCCACCGGTGTTGAACCTTAAGTCTATGTTTTTTTTTGTAAACA
GGTAGAGATAACATGTATGGGAGAACCAGTGATCCCAACGTTGCAGCTTCACAGCTTAGT
AGACCTATGGTTGGAAACAACCTCTAAGCATCAAAGAGTCGCTGCGTCAATAGGTTTCATC
10 TGCAAAGGAATTTGTAATGGTGCTAGTTTATTCTCGGAAGCTCCCTGAATGCAACAACATA
AAGAGCTATTTCATTGAATCTTTTCTAGACCGAGAAGAAAGAAAGTGCAGGAGCAGTGGA
ATGTCTTGTGTAGAAAGAACTTAGCAATTTATATTTATTTAATTGTAATCTTAAATTT
GAAACATTGGTGTGAGACAGACACTTTGTTTGTATCCAAGAAGATTCAAAAATGGCTT
TTTAAAGGAGATTGTGTCCTTTTTGGATATTTGAATGTATGATTAGGATAATGTTGTCAT
15 TTCTATAAATATTTGTTTCCTTGTGTTGGACTAAATGGAGAAGTACACGGAATCCTTGTGA
ATCGAATGACTTAGCCATTATTGAGAAGTCAAAGAAAAATAACCAAAAAAACTTGTG
AAGTGACCTTTAATACAAGAATTAAAGAGAGATGTATAAAGTTTTCTAACAATTTTGT
TCACCAAAAAAAAAGTTTTCTAACAATTTTAAATACAAAATGCAAAATTAAGATGAAT
TTTCTATTTCTTTTTTAAACATAATTTTGAAGAAATTTGGTTGTCTTTTGCATTTG
20 TTTCTAGATATTCTAACTGTTGGGAAATAAAAAATTTGCACACAAAACATAGTTAA
TTCACGTGGTATTTATAGAGATTACTTCAACCAATTTGGATTTTGGGTCATTGTTTTA
TGGACGGATAAACTATCCATTAGTCAAATTTCCACAAAAATAATATGTGAATTAGATTCTG
ACAAGGCTAATTTCCCCACAACATACGATACTAGAACAAACGTCTCTGACTACTTGACGT
AACAATGT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 142>:

GNMCG44R gnm_142

30 TCTTTTAGTTTGAGATTAGTTGTGCAATCAAAGGAAAGGAACTTCTTGGCGAGTAGAGA
GAAATGGTGATTGGTGAAGGTGAACTCTTTTTCTCAATTTTAAATTCATTTTTGTTA
TTTTTAGCAGAAAGTCAAACATTTGACCGAAAAGGAAGAAGAGAGATAAGTCAAATCC
GGCTGCTGGGCTTATTGGGTCACAGATCATGTGTTTCATTTGTTATGCTTGACGAACG
AAACCACTATATTTTGTGTTAATATTACTTTCTTTAAGTAAGGATAAAACATGTCATTGT
TTTACAAAAAATAACTGATAAACATTTCTGGTTCCTGAATATACTTTTTTTTTTGT
35 GAAAGGGTTTCTTATATACTTGAACATAAAAAGTATACAAAAAACAACAATAAC
CAGAACTAGATTGGGGAAGAAGACCAACTAAGGTACTTAACAAAAGAAGATATCAAAAC
CTATATATCTTGATAATGATGGATTCTTTTTGGTTTGTGTCATGTTAATGATAGTTTTAGT
GTAGAACAATAAGAAAATTGACTGAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 143>:

GNMCG46F gnm_143

40 CCGTGAATCTTCTGCGGGATCTTCACGCTCTCATCCAGAAATTCACGCCCATAAATCG
GGTTGACGATTTTGACGCTGGAGTTGAGGTATTCCAGATCCTTCGCTTCATGCGTTGCAC
CAAGCATGTTGGAGTCTGTGGAGTAGGCTTTTCGACAGACATTTGTAGTCGAAACCGC
AGCAATCATAAATTCAGACATCTCATGACGGCCGCCAGTTCATCAATAAAGTCAGTATC
45 AAGCCACGGTTTGTAAATCTGCAGTTTCAAGTTCAGCAGACCATACGATAGAAACG
TTCGATATCGTTTCTTTGTAGGTGCTACCGTCACCCAGATATTCACGCCATCTTCTTT
CATCGCAGCAACCAGCATGGTACCAGTCACGGCGCGGGCCAGCGGCGTCTGTTGAAATA

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GGTCAGGCCGCCGGTGGTGTATGAAATGCGCCACACTGAATAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 144>:**gnm_144**

5 CTAAACTAAAGTTATGGTCTAAAATCACACTCTCATTTACACAATACTTCTATTATTAAT
GTTTGGTTCTGACTACAATCAAACCTTTAGATCAAAATTGTTTCTTGACTTCTTGTTGAT
TCACCACCAAACTAGACTTATCTCTATACATGTTTTCAAACCACTCAACAAATATAAGC
AAACAAAGATCTTCTTCACTTTGCACATAACCAGAATGAATTTCTACTAAAAGATGAGAT
CTGAGAAAGATCAAGGAAGGCTTTTTACCAAGAACAGGAGCAGAGATGGCGACGGTAGG
10 CTTGAGAAGGAGAGCCGGACGAGCGCGGAGACGtGGAAGCGGAGGCAGTAAAGCTAGCC
ATTTCTCTATTTGCTTCCCCTAACGACTGAGAGACTCTTCAATTGATTTTGTGTTGTTTC
TGTTTGTGTTCTACAGCAACAAGACACTTTTAATTTCTTTGCTTGTGTTGGCTTTTGGA
TCAAACATAAATATGTGGTGGATAAAAAATCTGTTGGAACCAACACAAGCCATCTAACTT
GGATATGCTTCTATCCATACTCCACCAATCGACGCCCTCCACGTGTCATATTTC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 145>:**GNMCG47F gnm_145**

CGAAGCTCTGATGTCCTTCTCTTCTATCATCTCAATCATTGATTCCCTGAAATCTTTCTT
TGGATCAACGGACCGCTTCATCACAGCGAAGTCTCCTAGAACATCTTGTTTGCTCTCTGA
20 TCTTCTAGAAGTGCTTCTACGAGTACCTGAGAGTTGAATTCTAGGTGAATTCACTCTTTT
GAGGTTTATCCAGCAGATGGTTTTCTTCCACTAGAACTTGCCCTTGGTACTTCTTCTC
GGCTTTATATTCAATTATCATCTTTCATCTCTTGAAATTTTACAGAAAGATGGCTTTTCTG
CGGTTTCTTAATCGGCATGCATGCAGTACAAGCTTCTCTACCGAATCAATCACTTTG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 146>:**GNMCG48R gnm_146**

ATGGCATAGCTATTTCATTACAGATCAAATTCACCTTCACTTGTACCCTGTCCACTACCAT
GCAAAATTATCAAAGTAACCTTTAGGATCACTCTCAAAGTTATCTTTGAAATGTAAGAAG
ATCTATTGCTCCCTGGTGCTACCATGTAGCCACCTCCGCCCCCACCACCACCGCTTTTCC
30 CTCTCCACCAGCAACCACCTTTCGCTCCTCCACCGCCGACGCAGCCTCTTCTCCTCCAC
TGCCACCACCACCACCTTTTCTCCTCCACCGCTACAGCTAACGCCTTTTCTCCTCCA
TTCTTTGAAATAGTAGTTCTTAGTTTCACTCTCTAGAAATTTTAAAGATTTTGTGTGAAT
GAGAA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 147>:**gnm_147**

ACAACCTTCACTATACTATCGCCATATCCATCAATCTAACATCCCTGAGACCAAAATTA
GAAAGCGAATTGAAGAAACCGCAGAAGTAGAAGAAGCTCACCGACGGAAGTGATGCTCTT
GAGCCGATTGCAACGAAAACAATCGGAGCTAAAACAGATAACAATAGCAGCGAGAGGAT
40 CAGAATCCTCTGCCAACGACGAACCTTGATTCATCAATGTGCGTAACTTCTCAGAGAACGC
TTCATATATTTTATCTCCGTTGCGCTTTAATCGTTCTCCACGAAGAAGAAGAAGCACATT
CCCAGAGGGAAGAACACAGATCTCGGAGATTCTCTGCTTCTTCAACAAGCAATTGAAGAA
AACGATGAGCAGATTAGGGTTTTTCAGATTCTTCTGCAATAGGATTCGATAAATGCGAGAG

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TCTGTTTCTACGATTTTCATATCTGGAGATTCAGAGCTTCCTCGTCATGTTTAGAGACTT
CTGCTCTTTTATTTTTTTTCGCTTAACTCAGAATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 148>:

5 **gnm_148**

TTAAAGAATGTCTTTTATTAGTATCATCATCATTCATCATCAACATCAACTTGAGACATC
ACATTTACACGCTTGTGCTCACATAATTAATAAATTTATTTTATGGTGAATTTTAAAAAT
TGGTTGACTAATTGAAATTGTATTTGGTGAAAACTGAAAATCATAAGAACATAACTTTT
10 ATCTAAAATATTATATAATTAAGGGAATAGTACAAAAATAATTATAAAACAGAGAATCAG
TTGCTTCTGATTTCTGACAGATTTCTATCATCATTTTCATGGAGATTTTACTCTTCATCGA
AATGATAAAATAACTGAAAAATGTAATTAGCGAATTATAAAACAGTAGCAAATGTAAACA
GTTTTAAAGAATACACAAAAAGGTTGACCAAATGGCAATTACAAAAGAAAAATACAGCTT
CTTTTCCTCGAAGTATGCTTTTGGATTGAAAATATTAACGTTTCTAAACGGACAAATC
AATTTAATAAATAAAAAACAAAGTTTTTCACAATTCAACTAAAAGTTTAACATATGTGAATC
15 TATCTAGGTTAAAGACTCAAAGTACACGTTATAATGrAGTTCAATAGTTTCATTTTCGATG
CTTCTTTGAATTTGGTAAAGTGTGAACCTTATCTTAAGTTTTTAGGTAGAAATAATTTAG
TATAGTAGCACTTTATGTTAAATTAAGGTGATACAGATACACAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 149>:

20 **GNMCG53R gnm_149**

GAAATATCAAGATGCTGGCGTAACAGCATTTCTGGTGGAGAAACGTGGTCGAAACTCAT
ATAGCGCACGGATTCAACGGTCGCTTTCAGGTTCTCAATGGTATCCCACGCCAGTTGACA
GTCGGCAATCTGCGTCAGGAGTTGATGGAAGTTGTCATCAAGTTCAAAAAATCATCCAG
25 TTGCTTGCGCTCAATGGCAATGCGTTGCTGGTGAAGATTTTGTTCAGTTGATAGCACTG
GCTTTTCGGTAATCATGCTCGCCGCCGACGCGCCACCGCGCACTCAATGGCCTGACGGAT
AAAAC TGCCGTTGCGCACCTGGGCCATGGAATTTTGTGACGTAGCTGCCACGTTGCGG
ACGAATTTGAATCAGGCCGTTTTCCGCCAGTTTAATAAAGGCTTCACGAACCGGCTGGCG
TGACACATTGAAACGAACAGAACTTCTTTTTCCGACAACGGTGTGCCTGGAG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 150>:

GNMCG56F gnm_150

CCGTGGACAGATCCTGACTCTCACGACATCCGAATTTTCAGAACAAGGTAAAAATGATCT
TGGATAGAAGCTTGAATCACGGCAAACAGTTTTATCCCTCACACAAAAACAAAAATATTT
AATTGTTAAAGCACATATTTTCACACATATTATAATACAATTAGGTCAAGAATTTAATTT
35 TTCTATTTGGAAGTAGATCAATATATAAACAGAAGAAGAAAAATGTTACGTGCCTGTCTGC
CAACAAGTCTGTACATTCTAAAGATGAGATCTTCTTCTTGTTCGGTCATATTGATAAACT
CCCATTTCACTACTACTTCTGCATTTTAGTTAGTATATAAATTCAAATATCAGTGA
AAACGTACATCAAAAACAATTAATGTTACAGGTCAAATGAATGAGC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 151>:

gnm_151

CAAGACTTCTTTCTTCTCTGCGTTGAGCTTGTATGTAGGTATCAGCGTCTCTCTGAGC
CAACTCGAGCTCATGTTGTAAGCTCTTCAGCTTCTCCTCAGCGGCTTTGCCGATCTCGAG

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CTCATTTCAGAGAATAAGTCTCTTTCTCAAAGTGCTGAAGCTTCTCTTCGCGATACT
CAGCTCTTCCTCCAAGGCTAGCACTTTTGTAGCTACTGCATCTTCTTTAGTGTCTCTTT
ATCCAAATCAACACTCTTTTGTTCAGCACCAAGATGATCCTCTGTGTCAAAGACATGAA
5 GCTCTGAAGCTGATTCTTCAGATTAGCAATCTCGTCTTCGTGCATTCGCATCTTCTCATT
AGCTTCTTTAAGCTCTCCCTCATATGTAGTAATTTTGTGAAGGAGATCAACATTGTTGTC
ACCATCAACACTTTCTGCTGGAGAAGGAGCTTCTGTTTCGTCTCTTGAAGCTCAAGCTC
AAGTTCAGCCATTCTACGGATCAATGCCTCGTCACCGTCTTCATCATTGGCAGAGGAATG
ATCAGAATCAGAACCAGAATCTGTCAAAGACGATGAATCTTCTCTTTATGGCTAGA
10 TTGACGGCGACTCAACTTCTCTTTGGTAGGAGATGATATCTCAAGAGAGCTCTGTGACTG
GATCTCAGATGTATGGTTCTTCTGAAGTTCACCACTAGCTTGATCATAACGCTCAGCCAA
TGCGCGATACATGCGGTAGAATTCTCGACAAGCTGGATTAACTCGGGACGTTTCTGAAA
ATACATCTGAGCTTTCTTTGCAAAAGAGTCTGCGTCTTCTTCAATCAGTTTTAACATGTG
GTTACGCGATCATCCATCTCTGAGAAACCAAAACAAGAACAAGAGAGAAAACATCAGAT
15 TGTGTTCTTTTGTAGTAAGTGGAGAGCTCAA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 152>:

GNMCG60F gnm_152

TCCACCAGCTCAAAGACGTGAGTAAACACTCTAAACCCAAAAACAAAGCTTCTTCTTCTT
CCTCAAAACACTTGTAGCAAGAAGAAACCTTCTCAGATTCTTCTTCTCAACACTCTTATT
20 TCTCCAACAGCTTAGTAGCTAACAATCTCTCCTCACCATAACTCACCAAGAACTCTCTTC
ACACAAAAAGATGAGTAAAAGAAAGACACTTTACAAGCCATCCCTTAAACCTTTGACTC
CTCCTCCTCTTCTTGTATCTGCAAGTTTCAACAAGAGCAAGATCAACGATCAAGATTCTGT
CTTACAGCTTGTTCCTCGGCTATTGAAACCTCCCCTGAGTCTTTGTGTATAGTTTCTACG
AAGAGGATGATGATGATGAGTTTCTTGAATTTTCAACTTCAAGATCAACACAAAGAACA
25 AAGCTTTCACCAAGCAGAAGGTCAAAGTGATTGATTCTCGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 153>:

GNMCG62F gnm_153

CCAATAGGTCCAAGTAATTTGCGGAAAAGTTAGTGGGCTTTAAATATAAAACATGACTGA
30 AATTGGGCCGTATTCGACATTTAGTTGTATTATTCTCTAAATATTCAGAACTCTCAATAA
AATCACTCTCTGGCGACTCAACGTTGGCCAGAGAATCGGAGAGGGACATTAAGTCTGGC
AGACTGGCAGAGTGGCAGTAACCATACGCCGAAAGAGATATTCTCAACTTGTCCCGTAAA
TCAACATCTTTACGAGACCTTCATGCACCTTCGGTCTTTTATTGTTTCTGGGTGGTTGG
TGTGGCAAATAGCTAGCTGTACGTTTGGGTTGCCAAGAACTCCAAACTCAGACAGTAC
35 GTGAGTCTCAAAAAGTTTTCTCCTCAGCTAGTTGGAGATTTTAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 154>:

GNMCG63F gnm_154

CATATTCAGATATTTTATCCAGTTGTATCAAGAGCAAGTCCACTGGTCCAGTAGTCCTCA
40 TTACGGTAGCTTGGGACCTCCTTTTCTATATCTCTCTTTTACTCTTCGTCACAAAGTTT
CTATATAGTTTCTCTACCTCACATCTACTTTTTTTTCAATTGCATTCTCCAACCTCCAAA
TCATCAGTTGTAAATAATTTGTCCCTTCCACTTCCAAATACCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 155>:

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GNMCG64R gnm_155

5 CCAAACACATCAATCCTTCTCAGTCCAACATGGTCCATTGCTCTGCTTCTAATATACTGC
AAAAGCCATCAAGACCTGCTATTTCAACTCCTCCTGTGGCTAGTAAATCCGCTCAGGCGC
GGATTGGAAGGCCTCCTGTGAAGGGCGAGGGAGAGGCCACTTGCTTCCGCGGTATTGGC
CAAAATATACGGATAAAGAGGTTTCAGCAGATCTCTGGAAAGTATCCTTTATTTGCTTCTA
GTACTTTTGCCAAATATTTTATTCTGGACAGACTTCTGGTGACTCATTGTTTATCTTAAC
AAATTCTAGTTTGAATTTGAACATTGTACCTCTCTTTGAGAAAACCTCTAGTGCCAGTGA
TGCTGGTTCGATTGGTCGTCTAGTTCTTCCAAAAGCCTGTGCAGAGGTAATTTCCCATT
CCTTAGGTGATGTCTTTTCTTGTCTTGAAATATTTTGTAGAGTTAGTACTGATGTCT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 156>:

GNMCG64F gnm_156

15 CCTTTTGTACATAATTAATTTTATATTTATAAAGAGTATATAAATAACATATGATTTG
GATACTATTGGTGGATTATTTTGAGGATTTTCAATTGTACACCTCTAGAAATACAAATAA
AATAAAAATACATTTTGGTCGTAGATTGTACAAGCATTGATTTTTCGATACAAATTTGT
CATCAATATCTTCAAGATTTTCCGCGGACAGTCCCGAGACATGCGTTTAACATGTGAGTG
ACACATCTTAACATGCGTTTCAAGATTCTAGCTCTGGATCTTCACACTGAACAGTTTCGT
GATGTCCCAACACCGCCACACCCCGGAACCGAGCGAGCTAGTTAACCTTGAAGATCGT
CTAGCCTTGGTTAAACAT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 157>:

gnm_157

25 ACCACAGTAGAAGCCTAAAGCATTGTGCCAGATATCAAATTCAGGAGTATAAAGGAACTG
AACCACAACATGTTGAAAGAAAGAGAATAAAGGTGAAACATTTACCTTTGATGAGGAGAT
TGTAGAGTTAACAACAACCGAAGAGGCCAAAACATTGTCAGAGAAGACTACGTAATGGTA
GAGATCAGGATCATTATAACTTTGTTGCAAAAGCTGCCTTTTTTCGTGATCCAGGGTAAA
ATATTCTGTTGTCAACCGCATTGAGAGACAATGAAGCCCTTTTGGGGTAGCTCTTGCTGC
AAGCTGCATTAAATATGCTGCTTGTCTTCTGCGCCCGAGCTTGTTCTTCGGTTTTATA
AGTCATGGCTTGGAGTTTGGTAGCAATGGCAGGGCAGTTGTGAAAGGCACGGCTGACCTT
30 GTATAACGCAACTTCCATGGCCTTCAATCTGTTAGGAGAGCTGAAAAGAAACAAAACATT
TATGTATGACTCGTCTAAATTAACACAATATTCAATTAAGATTTAGCTTCATAAGTAAAGG
CCAAAACCTTTTACAGGATGGAACAGGACTCCCTTTGAATCAATCAGCTGTGCTCACCTC
TTTGGCAAATATTTATCGCTTGGTAGTATCACCAGTAGCCCGTTCCAGCTCTTTCGTTTCG
AACTCTCAACTCGCTTACGATTTGGGAGTTATTCCCAGGTAGGGCCAAATTCAGATAGGC
35 TTTGCTTGGATAATTTTGTCTCTGATCTCGCTTACCCTGTCATCTGTTGCTCTGTCAAG
TTGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 158>:

GNMCG68R gnm_158

40 GGGACAATTGTGACTATCCCACCACCATGAATGTGATTTCTTAGTCATAGACCTCTTAAA
CTGCTTCTTGCTCTGAGCCTGAGAGAACATCAGACAAAGTGACTAAATGTTAGGACCAAG
AGACTAAACACAAGGATCTAATGAACTTATATAGTGAAGATCACGAAGGTTTCATACCGT
AGACGAAGCCATGACCGTGGAGTGCAGAGAAAAAACCCCTACAAGAAAAAGATCAAGAAC
TTAAGTCATTTGACAAACAAAAGGCAATTTGATGTTCAAAGACTATGACTTTCTCGGATG
45 TGCTTGAGTTGAACAAAACATAAGAAACAAATTAGATGAGATAAGAGGAGAAAAGAGGAC

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ACGTGAAGATTCAACAACCCATTTGTACTTTGTAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 159>:**gnm_159**

5 CCCAAACAATGAGCACCCTAATTATTATTGCAATCGTAGAACGAACCATTAAAGACA
TTTTACACAAAACATCTCACAAAAGCAAAACAAGGAATATTTCAACAGATTTACAAA
CATTTATAAAGTCATCTTCATCCTTTTTTTTGTGCAGAAAGTTAACAGTTCCTTGGTTT
CATAACGATTATGGAGTGGTTAAGGATGTGCAAGCTGAATTGTCCACCTTCTCACTAGT
ATCCACTTTAGACTGTCTGGAGGAGGAAGAAGCTCGAAGTTCTGGACCATCTACCAAT
10 GGTGATCCCCAAAATAGGCAATGCCAATATAATCCCGGGACAGCTTCGACGTCCAACACC
AAATGGCACATACCTGAAGTCATTACCGTTAGCTTCCACGTGCGATTCTTCTCAAAGAA
CCTCTCTGGTCTAAACTCTTCAGGCTTCTCCAGCTGTGGGGTTGTTTGTAGCCACCA
AGCATTAACAAGGATTTTGCTTTCTGCTGGGATAwCGTAGCCAGCGAGCTTCGCAtCagG
AGGTTC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 160>:**GNMCG72R gnm_160**

CATACAGAAGGAAAGGACGAATAATTGTTTTGGAATTTGCATGCATTTGAATTCGAGTAC
TCATAATCTTCTAAGCGAAAACCTTGCGAAAACCTTATCACCTATAAAACATTGAAAATAT
20 TGAAACCAAATGGGTGGTCTAATAGTTTGAAGAACTAATGTGTGGGTCAAAGTCACTAGT
TTAATACTTGAGAGGAATAATTTATGCTCTAAATAATCAACCACAAAATTTTCGATCTTT
CACTCACTCACAGAAAGGAAACAATTCAATTGCTAAAGCGTCATGACTCACGTTGCTTGA
ATCCTTAAATTTTTTTTGTGTGTATGGAACATCCAAAATCTAACATGGTTTATGAAT
TAAGTCGCAACTGATTCATTTTATTATGTTTTTCAGTACTATAACGTGTTACATTTAAGTG
25 AAGGACATCACATATATAAGTATACACAACAAGTTATCTAATCCAACCTAGTCCAAGAAGT
TTTTATTTAATCAACAAAAGAAGCAAGGCTTAACATCGAGTTCCTCGACTAAGTCTGTAA
AATCCGCTCAATCGGAAGTAGACACAATCACACAATGGTTTTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 161>:**GNMCG73R gnm_161**

TAATTCCTCTCCCAAAGTTTCTTGGTTCCATACTTCCATTAGTTTGTCAAACGATTTTC
AGGTCAAAGGCCTAATGATCCATTTTATTTTCATTGTCAGTCGAAAAATCCAGTTTTTCATT
AGTCATCCTTCTCCTTGGTGTGGAATTGCAACCGTAACAGATCTCCAGCTTAATATGCT
GGGTTCTGTCTTGTGCTACTGGCTGTTATCACAACTTGTGTTGCCCAAATTGTATCCTA
35 TGCTTATATTCTCTTTCCCTTTCCATATGCTTCTATTAGCCAGTGGTTCAGCTAAATA
GTAGTCTTTGTTGGAGTCGTTGCTGTTATCTTAACCAGTTATATACAGATGACCAATACG
ATCCAGAAGAAATATAAGGTTTCATCCACCCAACCTTCTGTTATCAGTCTTGCCCATATCA
AGCAATCACACTTTTTGTTACTGGCCCATTTTATAGTGGTCTCTTAACCAACCAGAACGT
GTTTGCTTTCAAATACACGTCTCAAGTTGTGGTGAGAATGAAGCAATATATGTGGA

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 162>:**GNMCG73F gnm_162**

GATATATTTCTCTGGTTAAGAATTTGAATGGTTGACAAAGAAACGGTCACTCTATATACT

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TAGAAAATATAGTCATACATAGACACCATCGGTCTAGTTATAATAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 163>:**GNMCG78R gnm_163**

5 ATATTGCTTCCTCTTGCAATCATAATGTAATACATTGCTAAATGTAGAAAATATCTACA
AACAAACACCACAGCGATTCCAATACTAGATATTGGTGACTTCTTGAGTATCATAACTTG
TTTCCCATATATCAATTTAACATTTTAGCATTCAAATTAGTTATGAAGTTTCAATTATT
CTTGCTGGAGATAAAATTTTATTACTAGGCATAAATCAATCACAACGTGATATGTGCATG
10 CTTAGTTAATAGAGTATCTATCGAAAATTCGCTTTTTTAAATTAAGTAACGTATATCAT
CATCATTATTAAGCGACAAACGAATTTAGACATTTTACCATCATTTACAAGATAATTGGT
GATAGACGAATCATACTTACTTTATAGATAGTATAAAATAAAATTACGCCAACTCGTCT
ATTGCGCTTGTTTTAGTAACATATGTTAGATGAATTGGCCACGTTGAATCTAATTCATGT
GTGCTTTTTGTAGAAAATCGACAAGTAGATAATTTATTCGTCACAATGACCCAAGATTCA
AACCTAATTGAAATAAAACCTAGTAGTA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 164>:**GNMCG80F gnm_164**

TATAAGTACTCAAATATAAACTCGAGACGACAAAAAAGTTATGCACAAAGAGTATTATT
GATTGTATATGTTTTAAAGTTTTTTCATTGTCTACCATGTACTATATGGTGATTCCTTTTT
20 TGTATTTAATTATAATGTATGTACTACATCTTCTTTATTGGTACATTGATTATTTCTCAA
AAGCAAAGTTCAAAATTTTAGATGCACGTTCAATAAAGTTACATTAGTATTTGAATTA
AGGTTGTTTTAAAGGGTTTTTCAAAACAAAAAACAACGATATGCCGAATTTTCGTTGGTC
TATCATATGGAGAAAAGATCTTCAATTCGGATAGACCAACCCGCCAATAGTTTGAACAT
TTTGCAAAACATTGCCGATTGTTTTGGACTTTGGGTTTGATAAAGGAAATTCGAATTACG
25 ACAAAAAAAGGAAATTCGAATTACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 165>:**GNMCG82F gnm_165**

CCCAGGACATTCATTTTCATCAATGTTTAGGATTTGGATTGAAGCTCTGCCACTTGGGTTT
30 AGTAAAAACCACTTGGATTGCTGGGTAATTGAGTGAATCTGTCACCACATGGAATACT
ATTTTATCCGGTTCCTGCAAGCAGTAATATCATTGTTAAAAGACATGTGGCTTCAGCAG
AGATTCGGAAAAGAGCATTAAAAACACAAGTTTGGATCGGGAATCTTGCAATTAACAAGTT
TAAGATGCTTGCAACATGATTTAAATGATACCTGAGTTTTGAATTAACAAGTGTAAGAT
GCTTGCAATATGGGGCATAAGTTTGAATCATGAAAACATAAAACAATGCAAGGTTTCTC
35 AACTGTAATTTAAAAAAGATAAAGTTATTCACTGAACAAAGAGCACACAAAATGTAAC
TCCTTTTCCTAGTTTCATAACTAGACAATATCCTATATATGGTACTAACCACAGTnGn

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 166>:**GNMCG85F gnm_166**

40 CCGCAAACCTTCTGGTCCAGAAAATGGTAAGTATATGCTTGTTATGACTTCCAGCAGTCA
TAATTGGAGTCAGTTTATGAACATTTATTTGCTTTATCGCTCAGAACCATGACATGTAA
TTTCACTTTGCATTTTCTTGTGTTGTCACCTGTTAACGGAAGGAATGCAAGATCTC
GGATGCTGATTTTACAGCCTTAAGGACAACATGTCCGGAGTAGGTAAGGTCGTCAAAC

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5 CATTATCTATGAATATGGTCCTCTTCTGCTCATGTTGTATGTGATAATGCAGGAAGTTCA
TTTAACCATATAGCAGAACCTACTTCTCTAAGAGGCAAGCCAGTTTTCTTTGTTTTGC
TTTCATATAATGCCACTGCACAAGTTTTCTTCTCAGCATGTATATCATCTTGTTATCT
TGCTAACAGAATTGCACATTTTCATAGAAATTTGATGCTTTACTTTCTTACAGGACTTT
GTTTAGTATCCCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 167>:

GNMCG87R gnm_167

10 CTCGGAATTCCATTAGTTCATTCCACGGACAAAAACAGAGAAAGGAAACGACAGAGGCCA
AAAAGCTCGCTTTTCAGCACCTGTCGTTTCCTTTCTTTTCAGAGGGTATTTTAAATAAAAA
CATTAAGTTATGACGAAGAAGAACGGAAACGCCCTTAAACCGGAAAATTTTCATAAATAGC
GAAAACCCGCGAGGTCGCCGCCCGTAACTGTGCGATCACCGGAAAGGACCCGTAAAGT
GATAATGATTATCATCTACATATCACAACTGCGTGGAGGCCATCAAACACGTCAAATA
ATCAATTATGACGCAGTATCGTATTAATTGATCTGCATCAACTTAACGTAAAAACAATT
15 CAGACAATACAAATCAGCGACACTGAATACGGGGCAACCTCATGTCCGAGCTCGCGAGCT
CGTCGACAGCGACACACTTGCATCGGATGCAGCCCGTTAACGTGCCGGCACGCCTGGGT
AACCAGTTATTTTGTCCACATAACCGAGCGCAAATGTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 168>:

GNMCG88R gnm_168

20 TTCAGTAAACTTCAGCACGTTTCATCGTCATTGGAAAGACATCTCCTGTCACTTATCAGG
TTCTAGGACATCTAAAAACATGCTTAGTGTTAGCATTGGGTATCTTTTGCTGAAAGACG
CATTACAGCTGGCGCAACATTCTTGGTATTCTTGTGCGCGTGATTGGAATGGTGCTTTATT
CCTATTACTGCACACTCGAAACCCACAGAAGGCCACAGAAACATCAACTCAATTGCCTC
25 AGGTAAATAGTTTCACCTTCCCTTTTGGCACAATGTGACTCAACTTCATTTCAATTATATG
CGTAACGAGAAAAACAAGAGTTGAGAATTGATGTTGTGAATGTGTCTTGCTCAGATGGAT
GAAAACGAGAAAAGATCCGCTAGTTAGTGCAGGAAAACGGGAGCGGATTGATATCAGACAAT
GGAGTGCAAAAGCAGGATCCTGTATGGAATTCAAACAAAGATTTTCAAGCGTAGAGCTGG
AGCTCGATATCTGAAATCTGTTGTAGTATCAGATTTCATAGGTTCCGTTTGTCAACTTT
30 GATATCTCTCTTAGAGAGAATCTACAGCTTCCCTTTCAAAGGAAGGGGGAGAGGATTAG
AGGAGGAACAGCTTTTTTGTGATCCATTTTCATATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 169>:

GNMCG90F gnm_169

35 CCTGAATGTGCATGCAGGGGTCCACTTCCAATAGAGAACATCCTTGAAGATCTGTGTTT
CGGTACTGGCCACCGAGCAAAGTATCAGACACCATATACCACGACCAAGCTATCACAAGG
GGACCTGTTGCAGTTTCATGACAAAAGAAAGTTGGATTTTTCTTAGGATTAAAGCACAAG
ATTGTGCAAAACAGTCTGGTCAGAATTGGGTAGACTTGGAATTGAAACTCAAACCGTT
ATGATATCTGCAGATACATACTGTATCATCGTTATGGATCGCATCTGGTTCTTAGCTGAT
40 GGTCGGGAAGCCGGAGATGTTACGTGTACAAAAGGAATGGAAGATGCAAAGAAAAGGAAA
CGATTTACTGTGATTGTTATGTGTGAAAACCTGGAGACAGATACTGTAGTAAAGCCATAA
AGGCAACTGTAAACAAAAGTGTGATTTTTTGTGTTATGAGTTTGTACTATAGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 170>:

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GNMCG91R gnm_170

5 GGAAGCCAGTAAGGATATACGGCAGGCATTGAAGAGTTTCGCGGGGAAGGAAGTGGTTTT
TTATCGCCCTGAAGAGGATGCCGGCGATGAAAAAGGCTATGAATCTTTTCCTTGGTTTTAT
CAAACGTGCGCACAGTCCATCCAGAGGGCTTTACAGTGTACATATCAACCCATATCTCAT
10 TCCCTTCTTTATCGGGTTACAGAACCGGTTTACGCAGTTTCGGCTTAGTGAACAAAAGA
AATCACCAATCCGTATGCCATGCGTTTATACGAATCCCTGTGTGTCAGTATCGTAAGCCGGA
TGGCTCAGGCATCGTCTCTCTGAAAATCGACTGGATCATAGAGCGTTACCAGCTGCCTCA
AAGTTACCAGCGTATGCCTGACTTCCGCCGCCGCTTCTGCAGGTCTGTGTTAATGAGAT
CAACAGCAGAACTCCAATGCGCTCTCATACATTGAGAAAAAGAAAGGCCGCCAGACGAC
15 TCATATCGTATTTTCTTCCGCGATATCACTTCCATGACGACAGGATAGTCTGAGGGTTA
TCTGTACAGATTGAGGGTGGTTCGTACATTTGTTCTGACCTACTGAGGGTAATTTGT
CACAGTTTTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 171>:

15 **GNMCG93R gnm_171**

TACATAATGCTGAAAAGTTGTACATGTATCAAATTGAAAAATTGATGATGCAAAGTTATA
AAGCAAAAACAAAGTAATGCACACTTACCTAATGTCGAAATCTAGGTTCCCTTTAACTTTG
ATACGAAATCAAATTTTTTCAAGAATACATACTTACCTAAAGTAAAAGTAGACGGTTCT
TTTGAAATTAGATTTTTCCGAAGAAACCGAAAGTATCTTTGTTTAGCCATTAAATCATGT
20 AGTAACATATCTCTATCCTATCGGTAATGGATGAGGACCAAGAGCGAAGTACCATGTACA
AAATTAGTTCAATAAACGTAAAACCTTCAATCAATTAATAATCGATGAATTATTATTTTTT
ATATATTAATAATTTTTTATGACATAAATGATATAAATCAATAAAATAATTTTAAGAAGT
CATTTTTGAAAATTCTATGTAAAC

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 172>:

GNMCG93F gnm_172

TTATTAATTCTTTTTTTCAGTCTTCATATGCAAATCCGGACCAGTCCCTCTCTAATCGA
AGAAAACAAAGGATGTTGATGAACCATGGGATTCCAAATTACATCTTTGGAAACCTCTAAAT
TTTCTTGTGGATGTGGCAAACGGAACAAAGGACCCAAAATCTGAGCTTGGAAACGCATCC
30 CACAATGATGTTTCAGGGGAGTAAACCAAAACAAAGGATCATAAAAGAAAGTGTAACCTC
GAGGAAGAGATCAGCAATAACGGTGATCCTACAACATCAGAACTGCTACACTTAAACGA
ACGCGTCGGACTCGTCGAAAAGGTCATCTACTTTTGGTGATTCTAGAATTCCACTGTTA
CCAGGTGCAGCAAGCCTAAAACAGGAGAGGAGAAACGGTCATGTTTGGTTCTCACTTGTA
CGGTCAAGTAATCAGTGAGATTCCTGTTCTGTATCTGAGACTCTGAGTACTTCTGATATT
35 CAATATTTTCTGTGTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 173>:

GNMCG94R gnm_173

GTCAACCGCATTGAGAGACAATGAAGCCCTTTTGGGGTAGTCTCTGATGCAACTTGTGCC
40 ACATATGGAAGGTTCTTCCGTAATTTTTGTGGCATAGTGTAAGTTAATCAAGAAAAGTC
ATTTTCGATTGAGAGCAGTTATGACCTGAATATGTTGGCTAGTTTAACTTTTCGCTGAC
ACCAACAATTTTTTGTAGAACCTGAAACAAATCTCTTTAGTACTACACTCTCTTTACT
AGTTGGTCACAGTAAGAGCTTTGTTGGTGGCGAACTTATTCATTTTCTAAAGAACCACT
CTTATGTATTTATTTTAGGCCTGACCACATTTTGCAAGACTTGAGAGCCAAATTATTTCC
45 TCTAAAACGTAAAAAGGAGAGAGCGCCTGAAGTTGTGTCCTCCATCTCATTACCTGCAA

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GAGGAAGGAGAGGTCTATCTCGTCTTTGGTGGTAAGCACACCCAAGGTTTCAGCACAAGC
TGGTACAACAGGAAAAAGAACAAAAGCTGCTACGAGAAAAGATGTAAGAGGTAGTGGTTC
ATTCATAAGAGAACAGTGAAGAAGGAAGAAGAATTTGGAG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 174>:

gnm_174

10 GCCCATTACGGCAGCAAAATTGCTTTGCGGAATGCTGAAATTGATGTTCTTCAGAATCGG
GCGGTGCGCCATACGCGAAGGCGACGTCTTTCATTTGATAAAGGGGGGCAATTGTGGTGG
GCAAAACAAACGATGGGCGTTACACCGAAAAACGAGCGGTGATTTCACGTCGTTCATG
ATGGGCATGGGCGAGCCGATGGCGAACTTCGACAATGTCGTTACCGCCTTAAGCATCATG
CTGGACGACCACGGCTACGGTTTGAGCCGCCGCGCTAACCGTTTCCACTTCGGGTATG
GTTCCCAAATGGACAGGTTGCGCGATGTCATGCCGGTGGCTTTGGCGGTTTCCCTCCAC
GCTTCCAATGACGAAGTCCGCAACCAATCGTACCGTTGAACAAAAAATATCCCTTGAAA
15 GAATTGATGGCCGATGCCAACGTATCTGGTCAAAGCACCCAGGGATTTCATCACTTTC
GAATACGTCATGTTGGACGGAATAAACGATAAGGCGCAACATGCGCGCGAACTGATCGAA
CTGGTTCACAGATGTTCCCTGCAAGTTCAATCTGATTCCGTTCAATCCCTTCCCAAACCTCC
GGATACGAACGCTCCAGCAATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 175>:

20 **GNMCH55F gnm_175**

TATCCATTTAATGTTCACTTTTGAAATATGTTTTGCTGGTTAAGGAATTTAGGTGAAT
ACATGTTCACTATTTTAAATGTGTTTCTTCATTGTATTCTGGCTTGTGTAGTCTCTGGTG
AGACGCCTACTATATTTGGTATCCTTGCTCTTTTTTACTTATTGTATCTTCTTATCTTG
25 CTGTTTTTAAGATTTTCTTTTCTTTTCTTAGACAGAGTTTCACTCCGGTCTCCAGGC
TGGAGTGCAATGGCATGACCCTTTGGCTCACTGGCTCACGGCCACTTCTGCTATTCTGC
CGCCTCAGCCTCCAGGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 176>:

GNMCJ01F gnm_176

30 CGTCATTATGGATCTTGAATCCTCTTCTCGGCAGGTTGCAATTAGCGAGTGGGTAGTATC
ACCAACAGCGCGAAATCCGCGTCTGATAATGGATATGTTCTGATATAACGTGTTAGTAGG
CACACGCATACCTTCTTCTTCCAGACTCTGGTGAAAAAATCTTGTTGTGCAACCACATC
AGGAAAAGCTTCAAGTAGAAGTGATAAACATCGACTGGCTGGCGTTGTCAAGACGACGTT
AAGATCGGCGTTATGTACCGATATTAATTTTCGGTGCTCAGGCCAGAACTCGATATTATC
35 GTTAATAATCCAGTACATACGTCAATAAACACTAAATCAATCGAAATGGAGATCACATAG
TTTGCTAAGTATATTGGTATTACGGCATAAATATATATTAATTTTATATTTATCATGAT
GATTGAAATGAGGCTTTAATGTTGCAACGTAAACTTTACGTAAATTAACATGGTTAACA
TTTATGCCACTATTGTTTGTAAATTCATATTTTCGTAATGCTTCTGAATTTTTTCGTGTGAT
GGTTTTAAATACTATGGTGTTTACTCTTGAGGGGACGGCCTATTTATAAAATACGGACAT
40 TTCAATAAATGCCCGTATAAACAGAGTATGATTCTGGCTGGTCTGAGTATCAATGTTG
GACCGAATGTGAACGAGTAAATAAATTCGGGTATTTTACCACCCATTCTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 177>:

-654-

GNMCJ02R gnm_177

GTACCCCATCTCTCAATAGCGTTGCCGGGCGTCACGATATGGACAGCCTCGCGGAACGATT
GGTTGAAGCACAAAACCATCACTTTTGAAGAGATTGCTGGTAAAGGC AAAATCAACTGA
CCTTTAACCAGATTGCCCTCGAAGAAGCCGGACGTTACGCCGCCGAAGATGCAGATGTCA
5 CCTTGCAGTTGCATCTGAAAATGTGGCCGGATCTGCAAAAACACAAAGGGCCGTTGAACG
TCTTCGAGAATATCGAAATGCCGCTGGTGCCGGTGCTTTCACGCATTGAACGTAACGGTG
TGAAGATCGATCCGAAAGTGCTGCACAATCATTCTGAAGAGCTCACCTTCGTCTGGCTG
AGCTGGAAGAAAGCGCATGAAATTGCAGGTGAGGAATTTAACCTTTCTTCCACCAAGC
AGTTACAAACCATCTCTTTGAAAAACAGGGCATTAAACCGCTGAAGAAAACGCCGGGTG
10 GCGCGCCGTC AACGTCGGAAGAGGTACTGGAAGAACTGGCGCTGGACTATCCGTTGCCAA
AAGTGATTCTGGAGTATCGTGGTCTGGCGACGTGAAATCGACCTACAGCGACAAGCTGCC
GCTGATGATCAACCCGAAAACCGGGCGTGTGCATACCTCTTATCACCAGGCAGTAACCTGC
AACGGGACGTTTATCGTCAACCGATCCTAACCTG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 178>:

GNMCJ02F gnm_178

CCTGACTGACGGAGACGACCGCTTTGACTAATTTGAATTATCAACAGACGCATTTTGTGA
TGAGTGCGCCTGATATTCGCCACCTACCTTCCGATACCGGAATTGAAGTGGCTTTTGCAG
GCCGTTCCAACGCAGGTAATCCAGCGCGCTGAACACGCTGACTAACAGAAAAGCCTGG
20 CTCGTACCTCAAAAACCCAGGGCGCACCCAGCTTATCAACCTGTTTGAAGTGGCTGACG
GCAAGCGTCTGGTTGACTTGCCCTGGGTACGTTATGCGGAAGTCCCGGAAGAGATGAAGC
GCAATGGCAGCGTGCCTCGGCGAATACCTCGAAAACGTCAGAGCCTGCAAGGTCTGG
TGGTGCTAATGGATATTCGCCATCCGCTGAAAGATTGGATCAGCAGATGATTGAGTGGG
GGTAGACAGCAATATCGCCGTTCTGGTGCTGCTGACCAAAGCGGACAACTGGCAAGCG
25 GCGCACGTAAAGCGCAATTGAATATGGTGCCTGAAGCTGTACTGGCGTTTAAACGGTGATG
TGCAGGTTGAAACGTTTTCTTCGTTGAAGAAAACAAGGCGTGGACAAGCTGCGGCAGAAAC
TGGATACCTGGTTTAGCGAGATGCAGCCTGTAGAAGAACGCAGGACGGCGAATAATTTT
CTTGCCCTAATGCTTGTGCCGGATGTGGCGTATCCGGCCCGTAAATTCA

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 179>:

GNMCJ03R gnm_179

CCCTCCCTAGTAGCTAGGACTACAGGCACACATCACCACATCAGGCTAATCTTTTAATTT
TTTTGTATGGGGGGGGGGTCTCACTACATTGCCCAGGCTGGCCTTGAACCTCTGGCCTC
AAGCAATCCTCCTTCCTCAGCCTTCCAAAATGCTAGGATTAGAGGTGTAAGCGACCACAC
35 CTGGCCAGCAAGGTTGGGATATTTTAAACAGCCAAAGTATTTCCAGTTCCTCAAGGGCC
TTCATGAAAAACAATTTAAGTCCAAACAGAATTAATTTAACTCACTGTAGTTAATAA
TGAAGCGCACCGTATAAGAATTTTAGAAGGAAAGTCTGTGCCTAATTAACTCTGGCAAT
AAGACAGAGAAGTCTGAAGGTAGAGAGGCTTTCTCATGGTTACCCAGTGTGAGACTCTG
ATTCTGGAGACCACAATTATGCACCAGGCAGAGGGAATTCTACTATGCATTGAGACTT
40 TGATTATGATGTTGTATAATGGACATTATGCACAAATCTCAGAGCTGGATTCCAGGAAAA
GATTGATTGGCATTCCCCATCCTCCAGCCCCATCTGCTTCCGTATGTATTCCCCACACC
GAGCTCATTCCCGTCTCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 180>:

-656-

TCAGCTGCGACATGAAATATCGCTCGCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 183>:

GNMCJ05F gnm_183

5 CCCAGCTACTTGGGAGGCTCAGGTGGGAGGATCACCTGAGCCAGGGAGGTTGAGGCTGCA
GTGAGCCATTACTGTGCCACAGCACTCCAGCCTGGGTGACAGAGCGAGACCCCATTTAAA
AAAAAATAGTCTTTAACTAATAATAATACCCTACCTTGCATCTGTAAAGGGCCACCT
TTTCCAAATTTCCCTTCATATGCCAAGCTGTGTAAGAAACAACCTCTTTGAGATTTTATG
10 GGCAGCTACTATTGATTCCACTTTACAGCAAATCTGAAGCCAAGGCCAGGCGCGGTGACT
CACGCCTGTAATCCAGAATTTGGGAGGCCGAGGTGGGTGGATTACGAGGTCAGGAGAT
CAAGACCATCCTGGCCAACATGGTGAAACCAGTCTCTACTAAAAATGCAAAAAATAGCTG
GGCGTGGTGGCAGATGCCTGTAATCCAGCTACTCGGGAGGCTGAGGCAGGAGAATCGCT
TGAACCAGGGAGTCAGAAGTTGCAGTGAGCCAAGGTGCTGCCACTGTACTCCAGCCTGGC
15 CACAGAGCGAGACTCCGTCTAAGAAAAAATCTGAAGCCAAAAGAAAGGT
CACATTTCCAAAATAAGCATAAGAATTTTATCTCATCTAAGCAAGAGACTCTGTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 184>:

GNMCJ06R gnm_184

20 ATGGCTTGTTACTACATTGTGAATATATAAAAAATCCATTGAATTGTAACTTTAAATGGGT
GAATTTTATGTCAATTAAAGCTATTTTTTAAAAAAGACCTATATGAAAACTTGAATTTT
GGGGAGTTAGTTGTATTAAACCAGGCCCTATCCAGTCTTTTTTTCAAATTAGAGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 185>:

GNMCJ07F gnm_185

25 CCGGAAGAAAGTGAACCTCTGACTAGAGCAGGGGAACACCGAAGATGCTCCAGTGCAGATC
AGGAAGGAGCAGGGGATGAAATGTTACAAATCTAGAACTCAGAGAGCTGAAGGTAATTA
CTTCCTTTTCAAGTTGTGAAACATGTTAACCTGTGGTAAATACTTATAAGATGATAATT
ACCATCTAACCGTGTTGAAGTGACAGTTCAGTTGTGTGAAGTATATTCATGTCAATTTT
30 TTTTTTGTTTTTTTTTTTGAGACGAGTCTCACTCTGTCAACAGGCTGGAGTGCAGTGGTG
GGATCTTGGCTCACTGCAACCTCTGCCTCCTGGGTTCAAGCAGTCTCCTGCCTCAGCCT
CCCAGTAGCTGGGACTACAGGCGTGCATCACCATGCTCAGCTAATTTTGTATTTTATG
TAGAGACGGGGTTTACCATGTTGCCAGGATGGTCTCCATCTCTTGACCTTGTGATTCA
CGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTGAGGAACCGCATCTGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 186>:

GNMCJ09R gnm_186

CCATGACAGGTCCTTTTTTCTGTCTGTATACAAGATTAGGGGAGTGTTGGTGGGAATA
GTCTGCTCTGATGAGGAGCGAGTCATTCTGGTGTTCTGTTGCTGCGTAATGTGGGAAC
ACATTTTGTCCAGCACTTCTGGATAAAACACAAACCAGGCTCGACAACTCCCCAGT
40 GCCACATCACTTGTTCAATTCAAGAAAGATAGCTGAGGCCGGGTGCAGTGGCTCACACCT
GTAATCCAGCACTTTGGGAGGCCGAGGAGGTGGATCACCAGGTCAGGAGATTGAGACC
ATCGTGGCTAACATGGTAAAACCTGTCTCTACTAAAAATACAAAAAATTAGCTGGGGT
GGTCACATGTGCCTGTAGTCCCAGCTACTCAGAAGGCTGAGGCAGGAGAATGGTGTGAAC

-657-

CGGGGGGCGGACTTGCAGTGAGCCAAGATCGCTCCACTACACTCTAGCCTGGGCGACAGA
GCGAGACTCTGTCTCAAAAAAAAAAGAAAGCCAACCTTCAATCACTTCAGCATCCTG
GACAGTTCGAGCACATTGCAGGCATAATAGCTGTTTGAGGGCAATAAATAGCAGTCCTC
AAAGCCATTGAGCAAATACCTGCTTCCCCTCT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 187>:

GNMCJ09F gnm_187

CCGAATCCTAGCTAGATTGTCCGCCAACATATCTGAACCCCTGGCCTCTTGAAAAAA
AAGAGAGAGAGAGAGAATATAAAATGTACTATACAGGGTTAAATTGACACTTCCTTCTTG
10 AAGTATTTAGAAGTACTAATGGAGAGTTGAAAAGGGAAGCATGATTTCCCTCCCTATGTGG
CAATGTTGTTTAAATGCAATGCAGGACAGCTTCCCAGTGCTTCAAGTCTTCCACCTCCTGA
AACACTGATGTGGAGGGGAAACACAGGCCTTAAAGATCAGAGGCCTGAATTCGAGCCCC
TGCTCTGCCACATACTTGCTGTGTACCTTGAACAAATTACACAGCCTCCGTGGGCTTTG
GGGATAAATGTGAGACGGCATAGAGAATCATCTCCTCTGCTGACTGATTCTGATCCTTT
15 GGTGTGACTGCCTGAGCACCATGTGATGAGCTCTGTGAGGGCTCCATGGAGGGAAAATGC
AGTCATCTATTGGTGATATCTGCTATGGACAACATGAGTTGGAAATTCTGCCAGCCAGAC
TATGTCTTCAAGGACTGTGAACAAGGTGTCTTCTGAAGTCACTTCCAGATCAAAGGACTT
GGTGACTCGTTCCATGGGACTGGAATACGAGAGGGACTCTATATCATCATGGTTATTTT
CTAAAGGCCCTGAAGAATCT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 188>:

GNMCJ10R gnm_188

CCCAGGCTGGTCTCGAACTCCAGACCTTGTAATCCGCCTGCCTCAGGCTCCCAAAGTGCT
GGGATTACAGGCATTAGCCACCGTGCCCTGGCTTTTGGTGTCCTTCTCGTTAGTCCACAC
25 TCCTGGCCACTTCCCAGGATGCAAACTGGCTCACAAGGATTGGATTAGGACCCATTCCAA
TCAAATAATAAACAACATTTGTTATTTTGGCTTCTGGATATTAATTTTAATTACT
TTGAAACAACATAATTTACTACCAGATGTTTAAACAAGCACCCATTATAATTGCTAAACTG
TGAATTTAGTTTTAACTGTGTCTGACCAACTATACAAAACATCAATTTTAATTTTGAC
AAAAGGTAGTAGGCTGGGCATGGTGGCTTATGCCTGTAATCCCAGCACTTTGGGAGGCCA
30 AGATGAATGGATCACTTGAGGCTAGGGGTTTGAGACCAGCTGGACAACATGGTGAAACCT
GTCTCTACTAAAAAAGAAAAATTAGATGGCCATGATGGTGCACACCCGTAATTTTCAGCT
ACTTGAAGGCCGAAGCAGAAGAATTACTTGAACCCAGGAGGCAGAGGAGGTTGCAGTGA
GCCGAGATCATGCCACTGTACTCCAGACTGGGCTGAGCTACAGAGCAAGACTCTGTCTTA
AAAAAAAACAGCGCAAAGT

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 189>:

GNMCJ10F gnm_189

CCGGTATTAGGAAAGAGACAAACCACTTTGTCTTGGGCTGGGAGGGAACAAAACCGTCTC
CCTCAACTCCCTAAAATCAAATTCAGAGAGGACTGTCAAGGTGGACCCATGGAGCCCCAG
40 TCAAGGTCAGAAACAAGGATTCAAAGCCTTCAACATAAAGTCACCACGAGGCTAGAAGA
GACCAGATGAATGGGCTGGCCTGGTACCTGAGTCAGAAAGTGGGAGTGCGTGGGCATTGG
TCATGGTGCCATAATGGAGACAGTGAGCACAGGAGTTAAACAAGATGGCTCTGAGGCCAG
GTGCCCTGGGTTCAATCCCAGCTGCGTAACTTTCACGTGGCCTTTTCCAGTTCCCTTACA
CACTCTGTACCTCACATGAATGAACTGGAAAATGAAGACTACAGCACTACTGACTTCAGA
45 GGATTGTTGGATTAAAGTTATTAATTCACCTAGAACACAACCTGGCACATAGTAAGTGTT
AGTAAATGTTGTTATTCCACACCCCTCCCTCCCTTGGCCCCGCGATGGAGGAAGCAGGCT

-658-

AGGACCAGCCCTCGGAGCTGCAGCTGCCCTTCATCCCTCCCTCGGCCTCTCTAACGAGAT
CCTGCTCCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 190>:

5 **gnm_190**

AAATTTACTCAACCATTTCTGGAAGACAGCGTGGTGATTCTCAAGAATCTAGGACTAGAA
TTACCATTTGACCCAGCAATCCCATTTCTGGGTATGTACCCAAAGGATTATAAATCATGC
TACTATAAAGACACATGCACACGTATGTTTATTGTGGCACTATTACAAATAGCAAAGACT
TGGAAACCAACCCAAATGTCTCCAATGATGGACTGGATTAAGAAAATGTGACACATATAC
10 ACCATGGAATACTATGCAGCCCTAAAAAGGATGAGTTCGTGTCCTTTGCAGGGACATGG
ATGAAGCTGGAAACCACCATTCTCAGCAAACATCACAAGGACAGAAAACCAAACACCGC
ATGTTCTCACTCATAGGTGGGAATTGAACAATGAGATCACTTGGGCACAGCAAGGGGAAC
ATCACACACCGGGGCTGTTGGGGGGTGGGGGGAGGGGGTGGGGATAGCATTAGGAGATA
TACCTAATGTAAATGATGAGTTGATGGGTGCAGCAAACCAACATGGCACATGTATACCTA
15 TGTATCAAACCTGCACGTTGTGCACATGTACCCTAGAACTTAAAGTATATTTAAAAAAA
AAAACCTTCCCTTTCTTGAATGTAAATTGGTTCAACCATTGTGGAAGACAGTGTAGCGAT
TCCTCAGAGATCTAGAACTAGAAATACCATTTGACCCAGCAATCCCATTATCGGGTATAT
ACCCAAAAATATATAAATCATTCTGTCACAAAGATAAATGCACACATGATCATTGCAGCA
CTAATCACAATAGTAAAGACATGTAGTCAACCCAAATGCCCATCAATAATAGACTGGATA
20 AAGAAAATGTGTACATATATACCATGGAATACTATGCAGCCATAAAAAATGAACAAGATT
ATGTCTTTTGCAGGGACATGAATGGACCTGGAAGCCATTATCCTCAGCAAACCTAACGCAG
GAACAGAAAATGAAACACCCCATGTTCTCACTTGTAAAGTGAAGCTGAACGATGAGATCA
CATGGACACAGGGAGGGGAACAACACACACTGGGTCTATTGTGGGGGTGGGGTGGGGGA
GGGAGAGCATTAGGAAAAATATCTAATGCATGCTGGGCTTGATACCTAGGTGGTGGGTG
25 ATAGGTACAGCAAACCCATGGTACACGTTTACCTATGTAACAAACCTGCACATCCTGC
ACGTGTACCCCAAGAACTTAAAAATAAAAATACCCCCAAACACACTCCTTAGGTATATGT
AACTATTTTCCCGGGTAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 191>:

30 **gnm_191**

GTAAACCAAAATTCGAGGATTGTGTCTAGGACTTGAAGGGCCATAGGCATTGCAACCACCG
CCAACCTCCCTCCTTTTACTAATCGTAGTGCTTTATGGCCATAAAGCACTCTTTCTAAATC
TAAAAATGATTTAGAAGAAGGAAAAGACCAATATGATGATAACAATGTGGGAGATTCCCTT
TTATCTTTTGTAGCCAAATGACAGTAAGGAAAACAGACAGTATGCTGACCTCATCGTTTC
35 TCTAGGTTGCCAGTTTTTTTACTAAGATGTATATAAATGAAACCCTTTTGCTCTGCAGG
CTATTATACTATTCCCTTTTAAATTCAGCATCTCTCCCTCCTCCGTTTCATGCAGATTGTG
GAAGAGAACATCATTGGGAGAGAGAGTTTATTGGTTACTGCTCACCTGAGTAAGCAGTAA
GCCCCAGTGGCAGAAAAACCCATTCAAACCTGGCTTGAAGCAAAAAGGGAATTATTGGAAC
ATGTAATTGAATAGTTTTAGGTGTAGGGTGACTTCAGACGCAGCTGGATCCAGAGACTC
40 AAATGATGCCATCAGAAACATCTTTGGCTCTTTGTCTTATATGCTGAAAACCACTGAATT
GTGCACTTTATTTATGTAATTTTTTTTTTTTTTTGAGACAGAGTTTCACTCTTGTTGCCAG
GCTGGAGTGCAATGGCCCCATCTCGGCTCACTGCAACCTCCACCTCCAGGTTCAAGTGA
TTCTCCTGTCTCAGCCTCCCAAGTAGCTGGGATTACAGGTGCATGCCACCACGCCTGGCT
ACTTTTGTATTTTTAGTAGAGACAGAGTTTCATCATATTGGTCAGGCTGGTCTCAAAC
45 CCTGACCTCAGGTGATCCGCCTGCCTGGCTTCCCAAAGTGCTGGGATTACAGGTGTGAG
CCACTGCACCCGGCCCAATTGTGTACTTTAAATGGGTGAATTGTAAGGTGTGGGAATTAT
ATCTCAACAGAGCTGCCCCCACTTCCCCAAAAAGGACCAAGAGGTGAGGAAGTGGAGAC
AATAT

-659-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 192>:

gnm_192

```
5 CATGTCAAAATCCTAATCTCCAAGGTAATGGTATTAGAAGGTAAATCTTTGGTAGGTGAT
CAGGTCATGAGGGTGGAGCCCTCATGAATGGGATTAGTACCCTTATAAAAGAGAACCCAG
AGAGCTCATTGCTGCTTCTGCCATGTGAAGATACAGTAAAAAAGAAGCAGGCCCTTGC
CAGATACGAGTTTGCCAATGCCTTGATCTTGGAATCCCAGCCTCCAGAACTGTGAGCAG
TAAGTTTCTATTGTTTATAAGCTACCCAGCCTATGGCATTGTTTACGGCAGCCTGAATG
GACTAAGACAGTCTACCTAGACCATTATTTCCCTTTCATCATCCACCAGCCAATTCCAGC
10 ACATCTTTTAGATCTCAGCTTAAATACTCCCTCCAAGACCTCCCTCTATCTCTAATATGA
ATGAAATCCATATCTCAAGTTCTTCACAGAATCCTCTACTCTTTCCTTCATGGCATTGTT
CATAATTTGTAATTATATATCTAGCAAAGTTCTTTGTTGTTAAACATCTACCTCCTCCAC
TCTCCTAGAACTCCACAAGGACATCCCTGCACCCAGTGCCTAGGCAATGCCAGACACAT
AGCAGATGCTCCATTAATTATCTGTGCAATGACTGAATGGCTTCCAAGTTAGTTAACTGG
15 GCACCCTTGATAACAGATTCTGGCCTATTTGAAGGATCAAAGAAGAAAGTGGTGCTACCT
TCTCCCTGCCACTATCTTGCCCACTTGTGGTGCCAGTTTCCAGGAGGTTTGAATGGATGT
GGCTAATGATAGACGTAGACCTATTGCCTTCTTGATCATAATTCTGCCAGGCTCTGAG
TCCATGTGGCATCGATGGCTAATTGTCTCCTCCAAATTTATCCTCTCTTCTTCCATTTATA
CCCTCCCATGGAGTTTTTAACAGGGCATGTGGTCACCCCTACTGGGATCTCACTTCTCAGCT
20 TCCCTTGCACTGGATGTGGCCTTGTGACTAAATTTCTCATGAACAGAATGTGAGTGCAAG
TGATGTGTCAGTATCTTCATCACTTTCCTAAAAAGGGAAGTGTGGTCCCTCCACTTCCTC
TCTTTCACCCCTCCAATGAGCCAGAACATGCATGTGATGCTGGTGAGTCAGCTTCAGTCA
CATGAATAAAAACAAACCTCCAGGAGATGACTAAGCAATAAGACAGAAGGAACCCAAGTCC
CTAGACGAGTTCACAGAACCAAGCTACCTATCCAACCCTGGGCCCACCTGGATTATAACA
25 TGAGAAAAACATAAGTCCTAATCATATTTTTGAAGCACTGCATTTAGGGCTTCTTTGTG
ACAGCAGCCTACCTCTAGTCTAATCAATATACCTCACCAAGTCTCCTGCTCCTAAGGGA
GACAAAGAAGCAAATGAGTCTCAAACATCATCAAATGGAATAGATACAGACCTGTAA
TCCCAACACTGTGGGTGCCAAGGCGGGTGGATCACTTGAGGTGAGGAGTTTGAGACCAA
CCTGGCCAAATGGCAAACCCGTGTCTCCACTAAAAATACAAAAATTAGCCGGACGTGGT
30 GTTGTGCACCTGTAATCCCACCTACCCACGAGGCTAAGCCGGGAGAATTGCTTGAACCCA
GGAGGGGGAGGTTGCAGTGAGCCGAGATCATGCCACTGCCTCCAGCCTGGGTAACAGAG
TGAGACTCTGTCTCAAAAAATAAATAAAAAATAAATAGACCATTAAATTAATAGA
TATAGCCTTGGTCTGTGACCAAAGCTCAGAAATGTTATGATATTCCTTTCTATGTCACCT
CAACTTGCCCTGTCTCAGACAGGACAAATCCCCACTGGTCCTTTGCACTCACAGCTG
35 TTACATTTGAAATGGGAGCTTAGCCTTCCCTGCCCTGGTTCCTTCTTAGACTCATTGGG
AAAACAGGAAACGTAATTATTTCTGCCATTACCTTTATCTCATGGAGCCTGACAGAGTGT
AACCAATGGTAGGAATTAACAACTCTAATTGCCAACTCACAACAACTCCCGAAAAAAT
CATTTTAACTCATTATACATATTAATTTATGACATGCTTAATGTCCAAACCTAATAGATT
CAGTACTCAGGAAATCCCTTATACAGGTAGACACGGGTAC
40
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 193>:

gnm_193

```
CTTAGATTAATGGGCAAAAAAGTTACAATCATGGGATGTTTGGCTTCCCTATAAAGACTA
ATGTTTCATAGATTGTTTTTCAAAATGAGGACTCCCCACTAAATGGGTCCAGCTACACAC
45 ATGGTCTGCAACACGACTCAGATAAGGGGGACCTGAAGGCTAAACTCTTAACACTTTTC
TCAGTTCTAAATTTCTTCTAAGGGGAGTAGAGGAAGTCACACCCAGGCCAGAACTAAC
ATTCCACTGATCTCAAATTTTATAGACAAGGCTTCTCCTCCTAAGCCAATTACAAATCAAw
ACATCTTTAAATCTACCTTTGACCCATGGGTTCCTTCTGAGACGTCTGCCTTTTATG
GTCAAACCAATGTAGAGCCTCCCATATATTGATTTATAACTTTGCATGTAACCTCTGCCT
50 TCCTGCAATTACAAATCCTTACCTATAAGCCATCCGGGAGCTTGGGACTTAAGCATTAAC
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-660-

TAATTATCTTTGCTTGGTGCCCTCCAATAAATACCCCACTTCCTCTTGCTACAATCCCA
ATATCAATGTTTGGTTTGTGTGCTGGGCAGGGGACCCAAGTTAGGTTCAAGTATCAGC
AAGAAGGCAAGACAGAGTGTGTGCTAGCAAGACAGAAGTCCGTGTGTTGGTAACCTAAT
CTCAAAGTAAATGCCATCACCTTTGCTGTGTTCTACTGATTAAAAGCTAGTCACCCATA
5 TGTTCATTGCAGCACTATTACAAAAGCAAAGACATTGAATCAACCTAGGTGCCCATCAA
TGGAGAATTGGAAGAAAGAAATGTGGTACATATATACCATGGAATACTACACATCCATAA
AAAGGAACAAAATCATACCTTTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 194>:

10 **gnm_194**

CCCTTTTCTCGGTGGAATGTGCTTCTCCTTCATACATGATATAACTTGATTGACAATG
TCACAAAGATATTTCTCTGTAGATTAAATTTTGTTCATGAATTTTCAATAGCTT
TAAGCAGTTGAATAGCAATATATGCAGGAAGAAGCTGAGAGACTTATGTAATAGATATTT
CATGTATCTATAACCCACACTGCTGCCAGGAAATGTGCGCTGCATTAATAGAGAGGATT
15 TTTTCTGCTGAATACCTTGAGGAGTTGGCCAACACGTTTGGGAGTAGAAGTAGAAAGGG
CCAGGTGTGATGGCTCATGCCTGTAATCCAGCACTCTGGGAGGCCAAGTGGGGAGGATT
GCTTAAGCCCAGGACTTTGAGGCCAGCCTGGGCAACAGAGTGAGACTCCATCTCTAAGA
AAAAAATCATAAAATTAATAAATTTCTCTGCCAAATGGACACAGAAAAACTGACAATC
CAGAGAAAGATAATATGCAATGAAGCTAGACATGGCCAAATTAGAAAATGATATTGAGAG
20 AGAACAAGAGCAAGAAAGAGGAGCCCTCAGCATTGAGAGGGCTGAGGAAGCACAGAAATG
ACTGATGGGTGGTTAGTTAGTTACTTTTTGTGAAGTGTGCAATGTAATTTCACTTTGG
TCTCCCCACCGAATCATCAACTAAAGTCTACACTGCTATATCGGCTATCTATTGCTGTG
TACAAATTATTCCAAACTCAGTGCTTAAACACACATTTATTATCTCACAGTTTCTGT
GGGTTAGGGATTCTGAAGATGGGCCCTGCTTCA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 195>:

GNMCJ15R gnm_195

CCAACCAACATGTACAGTATCTCATGTACACAGTCTTCTAAGGATTGACACTGAGGTTGC
TTCTGGATTTTGTCAATTACAGATAGTGCTGGATACAAATCTTGCAAATATACCTTGCA
30 CGCATGCATGAGAATATCTGGAGAATAAATTCCTAGGGTCTAATTGTGGGTCTATTTAAA
TTTTGCATAAAAATTTGATACATGTTTTCTAACCACTGCTCCTCCCAAGAGGTTGCACC
AGCTTACAGTCCCACCAATCAGGGAAGAGGGATTTATTTTTTTATTTTTTTTTTTGGG
ACAGGGTCCGGTCTTGCCACCCAGGCTAGAATACAGTGGCGTGATCATGGCTCATGGCAA
CCTGGTCTTCCCCAGTTCAAGCAATCCTCCCGCTCAGCCTCCCCAGTAGCTGGGATGAT
35 AGCCGCATGCCACCACCCAGCTAATTTATATTTTACTTTTTGTAGAGACAGAGTCTCA
CTATGTTGCCTAGGTGGATCTTGAATTCCTGAGCTCAAGCGATCCTCCCACTTTAGCCTC
CCAAAGCTCTGGGATGACAGGTGTGAGCCACCATGCCCTGCCTGAGAATTGTCTTCTCAC
ACCCTTGTTAATAGGACTATTATCACATTTTAAA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 196>:

GNMCJ16R gnm_196

GTACCCGTTTCTTTTGGTGCCAATCTTGAGCGCGCGTAAACCAGCTTCTCCGCGCTCTTC
ATAGACCTTCAGCCACCTGGCTACAGAACCCTACCAGCAAGCATAAAGTGAGCAGCAGC
CTGATTAAGGGACATGTGCTGCTCGATCACAGCTTTCACGACCTTAATACGCAACTCTGG
45 ATCAGCACTAACGCCTTTAGGTTTGGGAATTAACCTTTTTCTCCATGTTTTTCATAGAG
GGCAACCCATGTCTGACCTGGGTTCGGGGGACACCAAAACGTGCCGAGATGATCCTGTA

-661-

5 ACCATCATCAGTTGTGAAGTAGTGATTACGACTTCAAGGCGCTTTTCAAAGGGTATTT
TGGCTTTGACATATTAGGGGCTATTCCATTTTCATCGTCCAACAAATGGGTGCAGTACAC
TGGAGGGGCTATCAGTACACTACCTTTACGCCCCGCCACCTCGCGTCTCGGAAGCCTTAAT
GAGCGCCCTGGCGAGACCCGCGAGCAAGGCTACGCCCTGGACAGCGAAGAGAACGAGCAG
GGCGTGCGCTGCGTGGCGGTGCCGGTGTGGAACACGAGTCCCGCGTCATCGCCGCCCTGA
GCCTGTCGACGCTGACCTCCCGCGTGGACGACGCGGAGCTGGCTAATTTACGCGAGCAGC
TTCAGCAGGCCGGGCTCGCGCTCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 197>:

10 **GNMCJ16F gnm_197**

CCTGGATCTAGGCGTACGTCAACTATTCCGCCAGCAGCAGCGTGCAGCCGGTTGAGGTGC
TCACCACCATCAAAATCTGTTCTGCGTGGTGCCGGTGGTGCTCTACGCGGGCATGTTCA
TCATGCTGTGCTCTACAAGCTCACCGATGCCCGCGTGGAGGCCATCAGCCGGCAGCTGA
TTAAGCACCGCGCGGCGCAGGGCGAGGCCGTTCCCGACGCCGCGACAGCGCATCCCATTA
15 ACCGGAGGCAATATGGAAATCACTAACCCGATACTACCCGGCTTCAACCCGGACCCGTCC
CTGTGCCGCCAGGGCGAGGACTACTACATCGCCACCTCGACCTTCGAGTGGTTCGCCGGC
GTGCGCATCTACCACTCCCGTGACCTGAAAACTGGTTCGCTGGTCAGCACCCCGTTGGAC
CGCGTGTGATGCTGGACATGAAGGGCAACCCGGACTCCGGCGGCATCTGGGCGCCGTGC
CTGAGCTACGCCGACGGTAAATTCTGGCTGCTCTACACCGACGTGAAGATTGTGACTCG
20 CCGTGAAAAACGGCCGCAACTTCTCGTCAACGCGCCCTCCATCGAGGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 198>:

GNMCJ17R gnm_198

GTACCGCGGATTATTGTTGGTTAATGCTGGTGTTCGGTACTGAACCACCAGTTGCCATGT
25 CTGAACTTAATAAAATCGCTGATCGACTTGGCGTACGATTGCACAATCACCAGTACGCC
AAACATGGCGGGCGTCATCCCTTTACCGGCACACGAGAGCGCCAACAGACCCAGCAAGGC
GCTCACACATTACTGGAGCCTAACCGGCGCTATTGCGAATAATGGTGCGAAACGCGCC
ATCTGCAAAACCAATGTTTGTATGTTAAAACCCGCCAATTCAGCCTGACCTTATCGTTGATA
GTAAAAGTATCCCGCCAGCCTTAAGTTAAACTTCGGCGGTGAGAAACGATGGCAACCAG
30 AGAAACCGCCTTCTGTGCCTGTTCCAGCACTTCGCTGTAGGGCGCTCTGGAATCAATCTC
AAGAATTTTTGTGCCGTTATAGCCAATCTTCGACATGACACCGATTTTGTCTGCGAGCTC
GGCATAGTCATGGTCAGGCTTGGCGGAGATGGCAGTCTCAATATCAATGCCAGGCGAAT
AATTAATTCGGGGCGATATTGCGCCATTTGTTGGTATAAACGCCGTTTCGCGCTGCGCCAG
AAACATGCTGATTTTCCCGGTCGCACGTACGACGCCAATCCCGGTCCATCATAATAAAA
35 GCCCGAAATTTACGCCTGCGGGAAGCGATCGCTGACCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 199>:

GNMCJ17F gnm_199

CCGGATTTTCCCATCAACGGTAATTTTGTCACTGCACGACCGACATTTCCGGCCTGTTTT
40 CCTAAATGAACTCTTTCCGCAGCACCATATTTTCGACAACGGTAATAAGATGTTACAC
ACCGTTGACTTGCTGAACCATCGCTACCAATAACGGCAATTAATGGAGGTGTTATTGAC
TGCATGAATATATCCTTTAATTTAAATATCCATTAAAAATATTTATTTGGTTAATATGTT
TTTATGAAAGCGTAATTCAGGTCAATGTCACAATTAACCATGTCACAATAAGGTTGAAC
GGATATTCTGAGCACGGACCGTAATATTCAATACATTATTTACTGCCGGGTTTTTCGT
45 GAATCAACGTAATATGTCAATAATTAATTCACGCCAGGCGTGTATTGCCATTGTAGGA
TGTGATGGTTACGGTAAATCGACCCTCACGGCAAGCCTGGTAAATGAACTGGCAGCAAGA

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ATGCCAACAGAACACATTTATCTCGGGCAATCGTCCGGGCGAATTGGCGAATGGATTTCA
CAGCTCCCTGTATTGGCGCACCTTTTGGGCGTTATCTGCGAAGTAAAGCGGCACATGTG
CACGAAAAGCCCTCAACACCGCTGGCAATATTACTGCACTGGTTATCTATCTGCTTTCC
TGCTGGCGGGCGTACAAGTTTCGCAAAATGTTGTGTAAGCCAGCAAGGCTTTCTGCTC
5 ATCACCACCGCTACCCGCAAGTTGAAGTGCCGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 200>:

gnm_200

GTACCGGCGCTACCTGGCTCAAGTCCGAGCTGTGAACACTGTACGATCGCACTGACAAAA
10 CTCATAGTGTACAGTTTCCTAACGCCGGAACCTTACGAATTCTGTGGTGGCGATACGG
ATCATACGTTTCAGCCGTCATATGGCGTGGAGAGCTGCTGCCAGTTGCTCTTTCATTGAT
GGCTGGTTAATAAACTAATCACGTCGCTATTTTAACTGCTGCTGGTGCACGGTTTCCC
TGAGTTTTTTCAGATCGGCTTTTGCAGATTGGTGGTTGCTTAGTCATTTGCATATTCCTT
AGCCCAGCGGGGAGTGATAATGTCTTAATAGCTGGCCATTATCGGTATTCAGGCAGTC
15 AGACAGGTTTCGCAGATTGCGGTGATATTCCTGTTGACCTGCCAGTWTGCTTCTTCGCC
CATCATGAAAATTTCAACCGGATAACGTCGCCATTCAATAGTTGTGCTGGCAACCAGAAA
AACGAAAGTTGGCTGCACTCCAACTGTGCTTCATAACCGTCACTGTAGAATGCATCCTG
AACGTGATAGCGGTAGTCGTAATAAGCGGTTTGAATCGTTGAATATCCGCCGTAGTTTT
CACGTCATGATCCAGTGAAATTCAGGGATAATTTTGTCCGACGGCACCGACACAAAAAT
20 TCCTGTTTCAGGATCTTCCAGTAAATTGATGATTACGCGTGTCCGGCGCTTTCAACAAG
CCATTGCCCCAGCGGCAAGCCATAACGCTTTGATACATGAGTACAATTTCCGGCCTTC
TTCCGCAGTGATAACCGTTTTCTGTGCTTGCGCATTCATCAGAAACGCTTTCTCTTC
TTCTTTCCGGCGTTTGTACGGCGGTTAAATTCAGGTGCTACGATAAAGCGGTTACTGAA
TTCTTCCGG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 201>:

gnm_201

CTGCCACGAATTTTCTGTGCTTAATGACCTGCCCGCTGAAGGTGAGATCGATTTTACCT
GGAGTGAACGCTATCAACTCAGCAAAGACTCCATGACATGGGAACATAAACCGGGAGCAG
30 CACCAGACAACGCTCACTATCAAGGCAATACCAACGTCAACGGCGAAGACATGACTGAGA
TTGAGGAGAATATGCTACTCCCAATTTCTGGCCAGGAAGTCCCATTCGTTGGCTTGCTC
AACACGGCAGCGAAAAACCGGTAACGCACGTTTACGCGACGGACTCCAGGCATTACACA
TTGCTCGGGCTGAAGAACTACCGGCTGTTACTGCCCTGGCTGTTTCCACAAAACAGCC
TGCTCGACCCGCTGGAAATTCGCGAATCCACAACTGGTTTCGTGACACTGACAAAGTTT
35 TCCCTAATCCTGGTAATTCAAACCTGGGACTGATACTGCTTTTTTTCGAAGCATACCTGA
ACGCTGACTACACCGATCGAGGACTGCTGACAAAAGAGTGGATGAAGGGTAATCGTGTTT
CACACATCACTCGCACGGCTTCCGGTGCTAATGCTGGCGGCGGAAACCTCACCGATCGCG
GCGAAGGTTTTCGTACAGATCTGACGTCACTGGCGCGGACGTAGCCACTGGCGTACTGG
CCCCTTCAATGGATCTGGACATCTATAACCTTCATCCGGCACACGCTAAACGCATTGAGG
40 AAATTATCGCTGAAAAATAACCGCCCTTTTCTGTTTTCCGCGACAAATTCATCACCATGC
CTGGCGGGCTGGATTATTCGCGGCCATCGTGGTTGCGTCCGTAAAAGAAGCACCATTG
GGATCGAGGTATCCCCGCGCACGTCACTGAATATCTGAACAAAGTACTGACTGAAACCG
ATCATGCCAACCTGATCCGGAAATCGTGGATATTGCCTGCGGTGCTCCTCTGCCCCGA
TGCCCGCAGCGAGTAACAGAAGAAGGAAAAACAGGATGATGAAGAAAAACCGCAACCATCTG
45 GAACAACGGCAGTTGAACAGGGAGAGGCTGAAACAATGGAACCGGACGCAACTGAACATC
ATCAGGACACGCAGCCGCTGGATGCTCAGTCACAGGTAAATTCGTTGATGCGAAATATC
AGGAACTGCGGGCAGAACTCCATGAAGCCCCGAAAAACATTCCATCAGGAAATCCTGTCTG
ATGACG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 202>:

gnm_202

```
5  CCGTGTTTGCATCAAATGACTGGCCTGTTCAAGGACCCATTGACCCAGCAATGTGTGGTT
   ATTATGAAACCAGAGGCAGAACGAGCTTTCTCTCTTTTACCTAGGGGGCTGGGAGTATTT
   CAAGTGTCTTCCGATTTTTATAACCCGCGAGTCCTAGAATTAACCCCGACCCCACTGCCA
   TTTACTCTCTCAATGTAGAGTTGCTTTGAGTAGGTAACAGCTTAAATTCTTAGAAAGCTG
   AGCCCCCTAGAGGAAATTTCTAAGGTCAAGCACTCATTTGCAACTTTTTATTGCTAAAA
   ATGTAGAGAAGGGAGAAGTCAAGAATAACACTGCTAAAAGGGAATTTATTTTATTTTAT
10  TTGTTTATTTATGAAATGGAGTCTCGTTCTGTCGTCAGGCTAAAGTGCAGTGGCGTGAT
   CTCAGCTCACTGCAACCTCCTTCTCCAGATTCAATTGATTCTCCTGCCTCAGCCTCTTG
   AGTAGCTGGGATTACAGGCACATGCCACCATGCCTGGCTAATTTTTATATTTTATAGCAGA
   GACGAGGTTTACCATGTTGGCCAGGCTGGTCTTGAACCTCTTGACCTCAGGTGATCTGCC
   TTGCCTCAGCCTCCCAAAGTGCTGGTATTACAGGTGTGAGACACCGCACCCAGCCTAAAA
15  AGGAATTTAATATGGACAAAGAGTACGATCCACAAAGGAGAGACAACTTTATGAGCCCTT
   TTGAGCACAGCATAATACTGTCTCAAAATATAGAATGTGCCGGCTGCCGTGGCCCATGCC
   AGTAATCCCAGCACTTTGGGAGGCCAAGGCGGGAGGATCACTTGAGCCCAGAAGTGCAAG
   ACCAGCCTGGGCAACATAGTGAAACCTCATCTCTACAAAAAATTTAAAAATTAGCCAGG
   TGTAGTGGTGTGTGCCTGAGGTCTCAGCTACTTGGGAGGCTGAGGTGGGAGGATCACTTG
20  AGCCAGGAGGTGAGGCTGCAATAAGCCATGATCACACCACTGCACCCAAGCCTGGGTA
   AAAGAGTGAGACTGTGTCTTGGCCGGGCGCAGTGGCTCACGCCTCTACTCCAGCACTTT
   GGGAGGCTGAGGCGGGTGGATCATGTGAGGTGAGGTGTTCAAGACCAGCCTGGCCAACAT
   GGCAGAAACCCGCTCTCTACTAAAAATACwATAATTAGCTGGATGTGCACATGCCTGTAAT
   CCCAGCTACTCAGGAGGCTGAGGCAGGAGTATCACTTGAACCCGGGAGGCTGAAGTTGCA
25  GTGAGCTGAGATTGTGCCACTGCACTCCAGCCTGGGTGACAGAGCGAGACTCCATCTCAA
   AAAAATAAAAAATAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 203>:

gnm_203

```
30  CCCAGTCCTGAGTATTTAAATGTTTCATTTCTGTGCTGAGAGACAGAATTAGCACTTGA
   TAAGGTTGCATAAAATGCCTGGCACACAGGAGATGCTCAGAAAGCATTTATCCTTTCACC
   CAGCTTCATAACCTCTTCATAAAAAAAGTTGCAGACACCTCTCCTCACATGCACAGAGAA
   ATATGGGACTATTCAAAGAGATGGACCAGCCACCTCCCTTCCCTCCCTGGGTGTTTTGCT
   GCTCAGAGAATTCTGATGCTTAGATCACATCTTGGGAAAGGGCTCCAAGGCCAGAGCTC
35  ATGCGCTTGCTGTGGATGGTGGAGGTATTCCTCATGTTAAAGTTGGAGGAGCTGATCCT
   CTCCAGAAACGCCTGGGCCAGCTCAGGTGTGATGTCATAGACCATGTCCAGCTGCTTGGT
   GCGTGTGCATAGCTGATAAACAGCCCAATCTAGTTGGTGGACAAGGACGAGAATATCAG
   TGAGGAGGGTGGAAAGTGGCCAGTGTGGCCCCACCCTGGTGGTCTGCACTGTGCCCATC
   ATGGACACTTGGATACACCTCCTGGTTCTCATTGTGATTGATGTCTTTTTTTCTTTCTT
40  TTTTTTTTTTTTTTTGAGATGGAGTCTCACTCTGTGCCCCAGGCTGGAGTGCAGTGACAT
   GATCTCAGTTCAGTCAACCTCCACCTCCTGAGTTCAAGCAATTCTCCTGCCTCAGCCTC
   CGGAGTAGCTGGGACTACAGGTGCCACCACACGCTTGGCTAATATTTGTATTTTATG
   AGATATGGGGATTACCATGTTGTCCAGGGTGGTCTCGAACTCCAGCATCAAGTGATCC
   ACCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGCGTAACGACCATGCCTGGCCTCAT
45  TGTCATTGATTTCTTAGTGGTCTGTAAGTCTACTTTAGTTTCTCCTCAACCTAACTAT
   TCTTTAGGAAAGAATTATTTTTTAATATCTGAGAACTGGGCTTTTTAAAGCTAATCTT
   TGCACATTTATTTCTAGATTTGTTATATGGAGGTGAGAGAATGTGGTCCACAACTTTCT
   GCGTTGAAGAA
```

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 204>:

gnm_204

5 CCCTGGAATAGCATAGTTAGGAGTGTGGGCCCAAACCTGGATTTGAATCCTAGTTCATCA
CTTAGTTGTGTGGCTTGAGACAATTTGATAAATTTTCTTGTGCCTCAGTTCCCTTTATA
TGAAATATGGTTAACAACCTGTGAGATTAAAATTTGTTACACATGAAAATTGCGTAAGAC
TGTGCCAACACACAGTAAATGCCATGAATAGCCTTTTCTCATTTTTATTTTTTTTTTT
GGAGACAGAGTCTCACTCTGTTACCCAGGCTGGAGTGCAGTGGTGCAATCTCAGCTCACT
10 GCAACCTCCGCCTCCCAGGTTCAAGCGATTCTCCTGCCTCAGCCTTCCAAGTAGCTGGAA
TTACAGGCGTGCACCACCACATCCAGCTCATTTTTCTATTTTGTAGATACTGAGTTT
GCCATGTTGGCCGGGCTGGGCTGGAACCTTGGCCTTAAGCGATCCTCCTACCTTGGCCT
CCCAAAGTGCTGGGATTACAGGATAAGCCACCATGCCAGCCTATGAAAAGCCTTTTGTA
ATCTTACGTTTGCTTCTTTGTTTGTGTTGTTGTTGTTGTTGCGATGGAGTCTCACTCTGT
15 TGCCAGGCTGGAGTGCAGTGGCTCAATCTTGGCTTATCACAACTCAGCCTCCCGCGTT
CAAGTGATCCTCCTGCCTCAGCCTCCTGAGTAGCTGGGACTACAGGTATGCACCACCATG
CCTAGCTAATTCTTTGTACTTTTAGTAGGGACAGGGTTTCACTATGTTGGCCAGGCTGG
TCCCGAATCCTGACTTCATGATCCGCCACCTTGGCCTCTCAAAGTCTTGAATATAG
GCATGAGCCACCGCGCCCGGCTGTAATCTTATAAAGAGATGGATGGATGGATGGATGGA
20 TGGATGGATGGATAAATTAATAAACAAATAAAATACTTAGACTGAAAGAATATATCCAAA
AGTACCCATTGGTGTATCTTAGGGAAAGGAGTGGTTATGGGAGTCTTCACTTTAACAT
AACTGGGTATCCCTGATATGAGGCCCAAGACCCCTATTTCTATCGATCATAGTACTCA
TCATATTAGAATTGTTTATTAATATTGGCGTTTCCACACTACCTAGTTCCTGCCCATG
TCCCTGGTATCTGTCCG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 205>:

gnm_205

CCAACTAAATTGTTTGAGCTGCTGTCATCTGGGGGTCTTTTGTATAGCAGCTCAGCC
TATATCCTAATATACCATGTCTCCATCAAAGGTGGGAAAATGAAAGAAAGACAAAATAGC
30 TTATATCATGTTTCAAGAAAACTGGACAGAACCCTTTTCCTTGAGAAGCAAAGACTAT
CTCTACATCCAGCCCACTTCTCCAATTACCTGGCCCTGAGTTTGAATCCCTGAGCAC
TGAGATGGGAACATATAGATGGGTCTCAGGTACACACCTGCAGGCTGGGGATGGTGAAGG
CAACATTCGGGAATTCAGATAGGCCAGGACTCTGTGGGACAGGTCAATCCGTCCACACGT
GGGAGCTTCAGTTGAAGACAGACAGGAAAAGATCACAATGACAGATTCTCTACAAGCAC
TACTGTACTAGCTAAGTGCCAGGGGACAGGTAGGGATGGACCAGGGGTGTTAGGACTTT
35 GTACTTGAAGTGGGAGGTTTCTTTTCTTTTCTTTCTTTTCTTTTCTTTTCTTTTCTTTT
GAAACAGGGTCTTGCTCTGTTGCGCGATCACGGCTCACTGCAGCCTCAATCTCCCCAGCC
CAAGTGATCTTCCAACCTCAGCCACCCAAGCAGCTGGGATCACAGGTGCATGCCACAACA
CCCAGCTAATTTTTGTAGAGATGGGTCTCACTATGTTGCCAGGCTGGTCTCAAATC
40 CTGGGCTCAAGCAATCCTCCCACCTCTGGCTCCCAAAGTGCTGGGATTACAGGAGTGAAC
TGCTGCACCCAGCCTGAAGTAAAAAATTTCTTAACCAGGCACAGTGATAGGATAGTTTCC
AATTCTAGGAATCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 206>:

GNMCJ23R gnm_206

45 AACTCTACAAAAAATACAAAAATTAGCCAAATATGGTGGCACATGCCTGTAGTCCTAGC
TACTTGGGAAACTGAGGCAGGAGGATCACTTGAACCTGGGAGTTCAAGGTGGCAGTGAGT
TATGATGGAGTCACTGCATTTCAGCCTGGGTGACAGAGTGAGACTCTATCTCTAAACCAA

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5
ATTTTAAAAAAGTATCTATATGTAATATAAAAAACCACAAGTGGGCCGGGCACAGTGGCTC
ACGCCAGTAATCTTAGCACTTTAGGAGGCCGAGATGGGTGGATTACTTGAGGTTAGGAGT
TCGAAACCAGCCTGGCCAACCTAAAAAAATTTTTAAAAAATACAAAAAAAACCCCAA
AAAACCCACTAAAAATACAAAAAATAAAAAAATAGCCGTGCATGGTGGGGGTGCCTG
TAATCCTAGCTACTCGGGAGGCTGACGCAGGAGAAGCTGCTGAACCTGGAAGGCGGAGT
TGCAGTGAGCTGAGATTACCACTGTACTACAGCTAGGTGACAGAGTGAGCTGTCTC
AAAAAAAACAAAAAAAACACAAGTGAGCTCATACTATACATGCTGTCCTGTTTA
TATATATAGCTAAGATATATATATGTATAAACTATATATATAGTT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 207>:

GNMCJ23F gnm_207

CCAGCCAACAGAGAAAAAGCTGGGACAAGAGACAAATGACATCATTTGCACCCCTAGATCG
AGCCATGCCTGAAGTCCCTCTCTGAACTTTCCAGTTACCTGAACAAAAAATTCCCTTTTA
TTGCATAAGCCAGTTTTCAGTTTCAGTTCCTGTTGCTTTCACCCAAATATCAACCTGATATA
15 ATTGGCTTCATGTTTGTCTATTCCCTCTCCACCATGAGATTATAAGGTCTTATAAAATTA
ATAGGAATTTCTAAATCTTCAGATAGAAAAATTTAGCTATCTGAGAAGTAGCACACAGCAA
GTACTCAATGAACATTTTTTTTTTTTTTGAATGAACGAAGACAATAAGAGCAAAAAAAGGT
AGAGGGAAATAAAGAAGGAGAGAAGGAGAGAAACAATGTCCAGATCATGTTTGAAAAGCA
GGGCCACCCTGCAGGCCCAAAAGCTCACACATGCCAGGAGAAACGCCTACTGCTCCCTC
20 AACTCTGATTCCCCTGGAGCCTGGCACAGCCGCAAAGCCAGGCCAGATGGGACCTGCCTC
ACTGACACTCATTACAGGCTTGGGTGTGCTTTGGCTTGGTTTTTAGATAACAGGAAAAGCGA
GAAGGTCTGTCTCAAATGTCTGTGTGATCTCAGAATTGAAATCCTGGATCTCAAGGGCT
TAACCTCTAAGGCATCCTCCACTCTGCCTCTGGTTCTCTGAAGAAACCCAGTGGGGAGAG
AA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 208>:

gnm_208

30 CATGACAACTCACCAGCCTGTATTCCACCCGAATGTAAGCTTCTGTGGGCAGGAGGCTCA
TCTGTCTTGTTTCGCTGCCATGTTGCTACTGCCAAGCAGTCCCAGTAGGCTGGTCATGGC
TGGTGTCCACGAACATATTGTGTCAGCATATGGGTGAACATACACACGTCCTTTCTGAAA
35 CAAAATTGAACTCAGTAGGACACTCACTCAGGCAAAGATTGGGAAGCTTTAGATCCATTC
TGGAGGAGGGGGAGATAGAATCAGAATATATTCATTTAACAAACATTTATGGGGAACCTA
CTTTTCTGGCAGACCTCATGCTACAGAAACAACAGTACACAAAGCCCTGCTTTCATGAAG
CTTACAGTCTACCGGGGACTGGGAGAGGGCGGACCATAAACACACACATGCACACATATAC
40 ATGTTCACATCCACACACCCCTGTATCAGATAGTGATAAATATTATGGAGCAAAGAAATC
TGGAGGAAAGGATCGAGAGCTCCAGATGGTGATGGTAGGGATAGGGGTGGTGCAGAACAA
GCTTTAATAAAAACATTAGGTGGTCAGTAAAGGCTCTGCCCTCAAGAGGGATACAATCGCT
TCTTAAAGGTCCCACCTCTCAATGCTCCCACTTTTGGGATTGAGTTTCAACATGAGTTTT
GGGGGGTCATTTGAATCAAAGCACATGGTGTCTACCATCAGCTCTAAGTTTACAGCCTA
45 ACACTTCCGCAATAACAAGAAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGA
GATCTTTCTAGTTACTTCAGCAAAAGTCCCCAGGTTAGGTCTGATTGGGCTTGCTTGAG
GCATGCTGCCCATTTCTGATCTGACCACTGTGGCCCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 209>:

45 GNM CJ24F gnm_209

CCGCTTCTCTTCTTACTATTTCAAGATGGCTGCCCAATTCATGTGCAGAGGAAAGAGAAG

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TTCTTTCTCTTTACTCTGACAGTTGAATAAAAAATCCAAAGCCTGGCTCTCTTTGGTCCA
TCCCTGAATCAGTCATTATGGCCTGGGGAATGGAGTATGCTAATTGACTTAAGGGAATCA
GGGCCAGCACTGGAGTGAAGGTGGGGCTAATGCCACCTAATCCACTGGAGAGTACCAAA
5 AGTGTGCTTCCCCAAAGGAAATTCACAATACTGTGGGAAAGGATGAATTGATGCTGAGTC
ACTATGAATGACAAATGCAAAAGATAAACATACCAGGCCCACTCCTTGCAGGAAGCAAA
AGATCCTAGAGGGAGAGGCTGACATGGAACAGGATGTCTGACCAATAAACTTCTTCCAA
TGAGGATTCACAGACATAGTCATACCTTCCAGGTTAAGTAAGGCTCAATTCCAGGCAGCT
GTCTGTCTCAGCTCCTCATGCACATCCGTCGCTTCTGTCTACCCAGCATTTGTTTCTCCC
10 TTATTCAGTTCTCATTGCTGTGTAACAAATTGACAGAAGTGCATCAACTAAAGCAACACA
AATGTATTATCTCACAGCTCTATAGGTCAAATCCAAGCACGGCTCAACCGGATTCTCTG
CTCAGGGTCTCATGGGCTGAAAATCAGGTGTCAGCTGGAGCTGTAGTCTTATCTAAAGC
TCAGGGGCTTCTTCCAGGATGATTGGGTGTTTTTCAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 210>:

15 **gnm_210**

ACTACAGGCATGCACTACCATGCCCAGCTAATTCTTTTAGTTCTTGTAGAAATGGGTCTT
TGCTATGTTTCCCAGGCTGATCTCAAACCTCTGGCCTCAAGCAATCCTCCCATCTCGGCC
TCCCAAAGTGCTAGGAATACAGGCATGGGCCACCATCCTGGCCACACAATTGTTTTTTTA
20 ATTTAGTTATAGTAGTCTGTACCACTGTAGGATGACAATAGTTAACAATAATATATAGTT
TCAAATAGCTAGAAGGAAGATACTGAACAGAAAGAAATGAGAAATGTTTGAGATGGTAGA
CATGCTAATTACCCTGACTGATCACCATACATTATACACATCAAACATCTTATGTACC
CCATAAATATGTACAATTATTATATGTCAATTTTTTTTTTTTTTTTTTGAGATGGAGTCTC
ACTCTGTCAACCCAGGCTGGAGTGTAGTGGCGCAATCTCGGCTCACTGCAACCTCCGCCTC
25 CCAGGTGCAAGCGATTCTCCTGCCTCAGCCTCCTGAGTAGCTGGGATAACAGGCATGCGC
CACCACACCCAGCTAATTTTTGTATTTTTTAGTAGAGATGGGGTTTCGCCATGTTGGTCAG
GCTGGTCTGGAACCTCTGACCTCTGGTGATCAGCCCACTTCAGCCTCCCAAGTGCTGGG
GATGCCGGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 211>:

30 **gnm_211**

ATACCTCTCCAACCCCATGTCTACTGTTATATCCTCTTCGTGCAATTTACTGAAGAACA
TGCAAATTATGCTCCTAATATCAAAGCCTTTGCACTGTCAATTTCTTTCTTTCTGGAAC
TTTCTTTCTCCAGATATTCCCGTGGTTCATTCCCTTCACTtCctgaGGTCTCTGCTTAAAT
35 GTCACCTCCTCAGGTCTTCCCTGACCAAACCTGTCTATAATAGTACCTGCTCCTTCTTTGG
CTCCTTTTTCTACCCTGTTGATTTTTCTCCATGGCACTCATCACTCCCTGACATAATA
TAGTTATTTGATTATCTATTTTCTGCCTGGTTCATTCCAACACACCAGCAGGGAGTTAGT
TTTGTAACCTGCTGTATTCTCAGAGCATAGAATAATGCCTGGCTCACAGCACTACTCAAC
AAATATTTGAAGAATGAAAGCATGAAATAATTACACAAACATAAATATGTATTATAGCTG
40 TGCTTGGTGTATAAAAGAGAAGTATTGGCCTTTCTTCTGGCTAATTGCTTTGGCCTGG
TCAGAGAATTCAAGGAAGGCTTCATTGAAGACTTGAAATTTACAATGAATTGATCTTAGC
CGGGCAAAGAGGAAGGGGAAGAATCCTCTGGGCCGAGGAACAGCCTGTGAGAGGGTCTTA
ATCTGGGGAGGATAGCACCTTGGAGGGACAGACAGATGGCCCGGCAGGAACCTTGGGGA
ATGAGGGGCAAAGAGGAGGGTGATACAGCCACTGGAAAAGCTTTGGGCTTTATCTTGAGG
45 GTAATGGGGAGAGGCGGAGGGTGACATGAGTTTATTGAGATGGTGTTTTCAAACAGCA
TCTGTTTGAAAACAGCAATCTGTTTCTTTGCTTATTaATAAACTTGTATACAGAGCTGA
CTTTGTGTCAGCCCTGTTTGAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 212>:

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gnm_212

CTAAAATAAAGCCTGTTTTATAATAAAGTGTTGAATATCTCACATAATTCATTGAACATT
GTACTGAAGGGGCAAACCAGAATGGTTGTATGGGTACTTGAAGTACAGTTTCTACTGAAT
GCACATTGTTTTTGACCATTTGTAAAGCTGAAAAATTGTAGATTTAAACCAATGTAAGTTG
5 GAGACCATCTGTGTTTTGTTCCCTCCTTAAkGCATACAAAAGTGTAGCCAAAGAGTGTTC
AAAGCTGGATTACATAATGAATTATTATTATTTTTTTTGAGATGAAGTCTCGCTTTGTT
GCCCAGGCTGGAATACAGTGGCGTGAGCTCGCTGACTGCAACCTCCGTCTCCTGGGTTT
AAGCGATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGATTACAGGCATGCCTGGAATTAC
AGGCACACGTCACCACACCCAGCTAATTTTTGTATTTCTAGTAGAGACAGGGTTTCGTCA
10 TGTGGTTCAGGCTGGTCTCAAACCTCCTGACCTCAAATGATCTACCCGCCTTGGCCTCCCA
AAGTGTGGGTTTACAGGTGTGAGCCACTGCACCTGGCTGAAAATCCAGATTTTTGTCCA
AGATTGCAGAATAAATTGCCTGGGACAAGTCAATGAGTGAGGAGAGATAAGTCAATGGAC
TGAGAAAGGGGTAAACTCAGTCTTGATATAACAGAATACAGAGGGGATTTGGGTGGATGGG
GAGCAGTGAGTGAATGGGCAAGATAGGACAAAACCAAGCCCACTTAAAGAACAATAATA
15 TTACAAAGGACAAAGTTGAGAATAAGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 213>:

gnm_213

TAATGTTTTTCTTCTTTTCAAAGATGTAATATTTCTGTTAACTATAGAAAGATAAGAA
20 AGATAAGAACCTTCAGGGCTCTTTGAAGACAAAATTGTATTCTGAATTGGGCATTCATTA
GACTGAGCGGATAAATCTCTAAATCTGGGTTTTATGATTTTAGGTTTGTGTTAATGG
ATTTCTTTTGCTTAACTTCAGGTGCATGCATGATAATTTTGAAGAGCAGAGAGATGGACA
AATGTGATTTGATTTATAAGTCTTTTCAAAGGCATTTGAAAATGTATTTACAGGTTAGTT
AAGCTTATTTTTACACTCTTAGTTGAAGGCAGGAGTGATTGTTTTCTCCCTCCACACC
25 TCGAAAGATGGAATGGTTTTTCACTTATAAATTTTTCCATCTCAGAAAAGGAGGAGCAGA
GGTTTTCCAGAAGGGTTAAGAATAAAGGTGGGGAAGGCAAGCCCTTGTTACCATAAGAGC
AGGAATCCATACGGGAAGAGTGGCTGGTTAGATTTGCTGGCTTGAGAGTGGATTATTTTA
TCCAACCTCTTGATCAGTGTTGTGAGAATTAAGTAAGATAATGGATTTAAGGGGCTTAGAA
GTGTCCAATCAATGTTAGCTACTGTTGTTATTCTCAGTACTACCTGTAGGCTTGATGGAT
30 ATATTTGGAGACATTTGTACCAAGGGTTATGGGGCAATAAGTGCGTGGTTCCTTTGGC
CCAGTGAACCTTTTCAGGACTTAGGATGAGGAAGGCGGAAAAGCCCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 214>:

GNMCJ29F gnm_214

CCGGCGCGATCACAGCTCGTTGCAGCCTCGGGCTCCTACAGCTTATGCAATCCTCTCACC
TCAGCCTCCCAAACCCACACCACCAAGCCCAGCTAATTTTTGTATTTTGGTAAATACG
AGGTCTCACTTTTGTGCCCAGACTGGTCTTGAACCCCCGGCCCAAGTGATCCTCCACCT
TGGCCTCCCAAAGTGTGTCTCCCCACCTACACTCCCATTCTTTCCCTTAAAAAAGTCTG
AGTCTGGGTGCAGTGGCTCACACCTGTAATGCCAGAGCTTTGGGAGGCTGAGGCAGGAGG
40 ATACCTTGAAGCCAGGAGTTTGAAGCCAGCCAGGCAACACAGCCAGACTCCGTCTCTAC
AAATAACACTTTTAAAAAAGTACCCAGGATACCCAAAGGACTATAAATCATGCTGTTTT
AAAGACACATGCACACATATGTTTATTGCGGCATTATTACAAATAGCAAAGACTTGAAC
CAACCCAAATGTCCAACAATGATAGACTGGATTAAGAAAATGTGGCACATATATGCCATG
GAATACTATGCAGCCATAAAAAATGATGAGTTCACATCCTTTGTAGGGACATGGATGAAA
45 TTGGAAATCATCATTCTCAGTAACTATCGCAAGAACAAAAACCAAACTGCATATTC
TCACTCATAGGTGGGAATTGAACAATGAGAACACATGGACACAGGAAGGGGGACATCACA
CTCTGGGGGCTGTTGT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 215>:

gnm_215

5 GTACCTTCTTTAAAATCTTCAAATATCTAATCAGGGGTTCAAATTTCTCAATTGTCTC
ACAATTTTTTGGGTTTTTTTGAGACAGGATCTTGTTCTGTCACTCAGGCTGGAGTGCTGT
GGCATGATCATAGCTCACTGCAGCCTGAATTCTGGAGCTCAAGAGATCTCCCATCTCA
GCCTCCTGAGTGGCTAGGACTACAGGTGTGCATCACCACGCCAGGCTAAATTTTAAATGT
TTTTATAGAGATGGAGTCATGCTGTGTGCCCAGGCTGGTCTCAAACCTCTGGCCTCAA
CAATCCTCCGCCTTGCCCTCCCAAACTGGGATTAGGTGTGAGCCACTGTGCCTGGCC
10 TAATTTTTTATTTTTATTTTATGGTATTTTTTGTGTTGTTGCTTTGTTTCTTTCTTTTTT
TTTTTTTTTTGGAGACAGAGTTTCACTCTTGTCATCCAGGTTGGAGTGCAATGGGATGAT
CTCGGGGACTGCAACCTCTGCCTCCCGGGTTCAAGAGATTCTCCTGCCTCAGCCTCCCG
AGTAGCTGGGATTATTAGCATGCGCCACCATGCCAGCTAAGTTTTTGTATCTTWAGTAG
AGATGGGTTTTACCATGTTGGCCAGGCTGGTCTCAAACCTCTGACCTCAAGTGATCTGC
15 CCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCGTGCCAGACATGAC
GTGTTTGAATCAGGATCCAAATAAAGTCTAGATTCTACAAGTGATCAATCTTTGTTTTT
GAGTTAATAGGCTCTTTCTCTCTCTCTCTGTAATATATTGGCTAAAGAGACTAGGTTG
TTTGTGTTGGGAGTTTCCACAGTCTTGAATTCTCTGGCTGCACCTAGTCT

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 216>:

gnm_216

CCAGTCTGGAGTGCAATGGCGTGATCTCGGCCACTAAAACCCCCACCTCCTGAATCTAA
GCAATTCCTCTGTCTCAGCCTCCTGAGTAGCTGGGACTACAGGCTCACACCACCATGCC
GGCTAATTTTTGTATTTTTAGTAGGGACGAGGTTTGCCATATTGGTCAGGCTGGTCTCA
25 AAGTCTGGCCTCCGGTGATCCACCAGCCTCAGCCTCCCAAATGCTGGGATTAGAGGCA
TGAGTCACCATGCCCAGCCTAACTTGGAAGATAATAAATCACCTTTTTAAGTGTCGTT
GGGCACCTGTCTGGTTGTTTTCTTTAGGTTACCATGCCAGCAATGATTCTTTTGAGTT
TCTGACAGAAGATAGTGGTTTTATCCAAATAAGTCAACTACTCTACCCCATCCCTAAGC
CACTTGATGGAAGAAAAAGAGGAAGAAGCCAGTACTGTGACTGCGTAAGCGTCCCCCA
30 GCATACCCGGCTATGAGATGTGTGGCAGCTGAGACCCGGGAAGTCTCAAGGGCACCAGG
CCCCATCTGTCTGCACCTCACTCACTTCCCTCAGGTAATCGCATGGGCATGTCACTGACTT
TACATGCTGCTGCAGCTCCTTGGTGAGCTGGCCCTGGTCAATGGGACAGGAAGTGTGGGGT
CAGGACAATAGAGAGCTTCACCATTGCGAATGAGCACAGGGGCTCATGATGAGTGCCA
ACCTATTAGATAATTTAAAAAAAAGTGTGAATGAGTGGAAAAACAAGGTGATGTTG
35 AGTCTATAGTGGTCAAGGGCTTCAGAAAAGGACAGACCCAAGTTCAAATCCCTGTACTTT
GAATTTCTACTTCATGCCATGCAAAATTACTTTACCCCTTTTAACCTCAGTTTTCTCTG
TGTGAAACAGGAACAATAGTTTCATTCTGTCATTCACTTTCTCTCAAGATTTACAGATC
ATACCTATAAAACATCCAAGTCATTTAAATGTATCATCATTTCTGTCTATAATTAGTGGGA
TCCATTTCACTATTATTGGATATACAGTTCTGTGCCTGAAACCTACAAAAAACAAAATG
40 TTAAGTCTAAAAAGCATTAGTGATTTCTCATTTTTATATTACTAATTATAACCCTATTTA
ATCACACAAGGCCTTGTCCGGGCAGGTGCTCAATAAACACTTGTCGAATCAATGCATGT
GGGCTCCGGAGCCACACTGTTAGATTCTATTCTGCCTCCACCACTTATCAGCTGTGTGA
TCTGGGTAAGATAATTCACCTCTTTATGTCTGCACCTCCCTCTCCATAAACTATATATAA
TGAGAATCCTTAGCTCATTCTGGTGTGGTGAGGGGTGAATGATTGGCACACAGGAGGGG
45 CTTGTTAAACATTAGCTGTGATGATCTCCTTCCAAATCTTCATTTTCAGAGCCACAGATG
AGGCCATAGTGCAACCAGGTGACCTTAGAGTGAAGTACACATGATCGCCAGCTATGCTC
TATCTCCACCATAGGTCCAAGACTGGGTAGTTCTGGCCTGGAGGTTTCTGCTGCATCTGC
CTTCTCAGTGTTACCTAAGGACTTTTGTATTTTCTCCTCGCATCCCCACAGATGGGGT
TCAGGCTGCCGGACACAGCTGGGTGATGCCAGGGCAGTGGTCACCTGTGCCAGCCCCGTG
50 AGGTAGCTGGAGGATCATTGTTCTTCTCTCGGGCTCTGGGCAGATGCCAGGGCTGGG

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5 GTGACCCATGCCCTCAAGTTTCTTGCTTTGGTGGGCCACATTTTCCCTTGGCAAAGAGGG
TAAAGGTCACAGGATGCCGGAGAGCTGTGACTTCTCTGTGCCCTGGGCCAAACTATGAA
GACCTGACACACTATGCTAAAAGTCCAACGCTGGGTGCTCCCCAGAGCTTCTTGCCCTCAC
CGCTTCTGCTGAGGGAGGAATGAATACTATGTCTCCAGAGCTTTGGGAGCTTGTAGCA
AGCAGCCTCCCCAGCGCAAAATCTCTTGAAACCTCTAACTGTGTCTGAAAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 217>:

GNMCJ31F gnm_217

10 CCACAAATATAACTTTAGCAAATATTTAGCATAACTATCAAAATTACAAATCATATTAAA
TTTGTATAAATGTATGCAATTTTCGGAACACGCATATCAACAACATACCCATAAATATAA
CTGAGATGAGATCTAATGTCACCTCACTTGACAGTGCCCTCCCATGCAGTATCGCCACAT
TTGACAATGCCTGCCCATTAACTACCAAATAAATCGAATCACTTAATACCTCTACAAG
15 ATGAGAGATACATTCTTTAGACTCCCCAAGGGATGCAGCTGAAAAAATCCCAAAGTTAG
TTTTAAGCCAAAAAGACTTGATTAGGATTTTGACACTGGAGAAACCCATCAAAGATGTC
AAGTTTGAAGCACTTGATCAAAACAGAATCACAGGTCATTTAAAAGAGTATTAATTT
AACCAGAGACTTCCAAAGCAATACAGAACTTACATGGATATAAAAACCTAACCCTTTT
AAAGGTCAGATTTGCTAAGTGATCAAAAGGGTACTTGAATTGAATCGACACAGGAAGAG
TGTTGTACAGGGTTATGAGTGTAGGCAGGTGGTTACTTTGGTCATATCTCCATTTGCCACC
20 TGATTACACATGAGAATGGCATCTTTACTACCAGAAAGCCAGTATTATAGGAGGTGTAG
GAGGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 218>:

GNMCJ32R gnm_218

25 GTACCATTATGTTTCCTTAAACAAATGACTCCCCTGTCTACTAGGCATTGTTCTAGAGTG
CTCATTGGGGGGTGGTTTGAAGACAGTGCATGCTGCTAGCTGCAGGTACTTTATTGCTGG
TGCTTTCTAGCCCATCCTGGTTTATTCTGGGATGCCTGGTGTTCAAGACCTGGCAGGTGC
ACATGTGAATAGGAGACACAGGGAGTTCTCAACTGGTCAGCAGCTTCCTAAAGCACAGGA
AGTAAACTCCAGCCCTGCCACCAATGTCTTTGCCTCTCATCTGCCTCATGGGGTGTAGA
GAATCATCTGGAGTGTGAGAGTGGGGCTCTGGAATTACCTTGACACTGGTTCAAATCCAG
30 GCACTGCCACTTAGCAATGGTCTAGTCCTAGGTAACCTCACATAGCCTGTTAAGCCTCCAT
TTCCCCATCTGTAAATGGGATTGTGGAATGCCTTCCTGATAGGGCCTCACAGTGTGGG
CACACGCTGAGTGTGCATCAGTGCTAACGATCATTCTCTTCTTGACAGGCTCTGTTCCCTGT
ATGAGCTTCTGTTAAAGACCACCAGAAGGCCTGAGGAGCTTTTGAGGTAGGAAAATGTAA
CTCGGCCTGGGTGCTGAACAGGCCTTTTCAGAGCCTTCTGCCAGAGCAGCCTACTTTTCCA
35 GGTGGGAGAGTTAGGCAGTCACATCTGTAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 219>:

GNMCJ32F gnm_219

40 CCGGGCAACTCTTCCTGCTCGAACATGTAGGTCTTCCTCAAAGCAGGTCTAGCTTCCATC
CATTTGCTCAGTTATTGGCTTGCCACCTGGGCAGGTCTTTAATATAGTTCAGTGGTTT
GTACCAGCAAAGTATTAGAAATGCAAAGTATTAGGCCTACCCCTTACCTACTATATGT
AAACTCTGGGAGTGGGGCCCCCAATTTGTGTTTTTACAGCCTTCCACACAATGCTGATG
CAAGCTCAACTTTGAGAATCACTAACAGAATTAACAGTCCAAGGGAATGAGAGAGCTTCA
TTAAACTTTGCATATTCCTGTAATGATCTTGAAGGATTATACACCAAGCACTCTATGCT
45 TCCTGGTTTTCTGGGAGATAATTTACTCTTTGAAATTTCTTATTCTGGTCTGAAACACA
AGGCCAGAGTTGAGAAGGTGCTTTTTAATATCCATTACAGGAGTCTGTAAGCCAGCGGTT

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5 CACACCAAAAGTTCAAATGCTGTAAGGCCTGTGTTTACTAGCTTAGACACTGAAAAATCA
GTCCTGGCTGGGTGAAGTGGCTCATGCCTGTCATCCCAGCACTTTGAGAGGTGAGGCA
GGAGGATCACTTGAGCCAGGAATTTGAGACCAGCCTGGGCAACATATCAAGACCCTATC
TCTGCAAAAAATAAATAAATTAGCCAGGCATGGTGGTGTGTCCTTTAGTTCCAGCTACT
C

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 220>:

gnm_220

10 CCTGACCCCATCAGCAGAGCCTAGGTCACAAGCCTCTAAATTCGAAGGCCATCACCTGT
TTCCCTGTGTGATTTGAAATGGGGTCAAGCTCCCATTTCTCCTTGAAGAAGTGAAGCACT
ACTTTGAATATCTCATCAGGAAGGCATTTTATTGCTGATGGCTGGAAATATGGCATCAAA
TCCTTGTCAGCATCCGGAGCTCTGCCTTAGTTAATCCAGCTGGGGAGAAAAAGGAATCA
CGGGGGTTTAGTTCAAGCCATCAGAACTCCGCTTGTGTTTATTAATGGTGTGCATAATGT
TCAGATCTGAGTGTTCTAGGCAGGCATCATTCTTACAAAAGGCCCTGGAAATCACACTG
15 GGGAATCAAGTTCCTTCATCAACTCAGAAAAAATGTGGGTCACATTAGCCCTGATT
GGCCTCTACAGTGAAACGCATGCCAGAAGGAACCTCAATTTACACACTTCAAATTTT
GTATAACCTACTTAGGGGCCAATTAAATCACATTCTAACTAGCGGTTTCCAACTTT
AGTGACACAAGATCTCCAAAAGAGCTTGTGTTTAAAGCAGATTGTCAGACCCACCCTC
TGCAACTTCAAATCATGAAATGTAGGTTCTACTGTAACGCCACTGATGTTGCTACACAT
20 GGCCAAGGATAATGTTTTATTTTGTGTCCTCCACATTAAGTTTGGAAAGAGAGAGAAAG
GATGCTCAGGGTGAATGTTTACCTGCAATGGTCCCAAGCTCCTGCAAGACAGAACTGGTCC
ACTCAGTGGGATCCCCAACACAACCTTCAGCCTTCTCTTAACTCGGCTAAGACATGTG
TGCTGCAGAGCAGGGTCCCAATTCTGGCCACTACCACCCTGGTAGTGGTTAAAGAGGGAG
GGATATAATATGAGCTTGGACTCTTCAGCCAAAAACAAACAAACACACACACACACAC
25 ACACATACACACACACACTGCACAGTAGGCTCAGCAGGGACAGCAGATCCAGCTTATCCC
ATTAGCCCAGTGGGATTTTAGCCCGAAAGGTGCCAAGTGTGAGGAGGTGGAATATCTGG
ATGGATGGATGGATAGATGGATGGATGGATGGATGGATGGATGAATTAACCCATTT
GCCATTTTGCACATTCATATTTTAGTTACCTGAATTCTGAGATCTTTATAAGTGGGATTT
CAGTGATGTTTATAGCACACAGGGTTGCACCAAGTCCTACCAATGAAAGCTCTTCAGGT
30 CCTGGATACTGTATCCTGAATCATCCAGGTACCCTTGCAAAATGGATTGAGCTAAAAAA
TAGTAAGAATAAAGATAAACCATCCAGGGATGATCCAGGGTCCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 221>:

gnm_221

35 CCGGAATCTGTCTCTTATCATGTTTTTGAACCTTGCTTTTCTTTGTGTTGGCTTCATTGA
GAGACAGGCTCTATGCCTGCATGTGGTAGGTTCCAGCAGATCCTTGTGTATATCCTTCTA
AGTTCAAGTCCAGAGTAAAGAAAGCTCTTCCCCTAATGCTCCACTCAAAGTTCTGGTTGA
CTCTGGTTAAATCACATGTCCAATCCAGAACCAGTGACTGCAGCTAGGCTAAGGTATGAA
TTGAAATTCATCACTCCTGGAACCTGGTGCAGTTAGCTTTGACTGAACCACATGAAGCAG
40 GAATACAAGAGAGGTGGTTCTCCAGAGGAAGTTATGAATGATGAATAGCCACTGTGCTAG
AATTATGGAGACTTATGTGTGAGCCGCTTAAATCAAGGCTTAGTTTAAATAGTTTAAAC
ACCAAAGCATTTTGTGTGCTACTCTTGAATTGAAGAGTAAACATTGGAATTGAAGGGGT
GAACATATTTCTGTAGGACCACAGAGGAAGAAAAATCATTAGGGGTAAACATATTTCT
GTAGGACCATAGAGGAAGAAAAATCATTCTGGCTGAAACCTCATGAAGAAGGTGACATT
45 TGAGTTGAACCAAGAAAAAAGAAATGCTGCACTTGGAGTGCAGAAGGGCATT
TCAGATGAAAGGACTGGTTTGAACAAAGGCAAGAGACAGGAATATAAGGTTTTGTTG
GAGGTTGTGGAAGGCTGGGTGCGGTGGCTCATGCCTATAATCCCAGCACTTTGGGAGGC
CGAGGTGGGTGGATCACTTGAGGTGAGGAGTTGATACCAGCCTGGGCAACATGGTGAAC
CCCGTCTCTACAAAAAATACAAAAAGCCAGATGTGGTGTGTCACCTGTAATTCTAGCT
50 ACTTGGGTGGCTAAAGCACGAGAATTGCTTGAACCTGGGGAGGTGGAGGTTGCAGCGAGC

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TGTGCCACTGCACTCCAGCCTGGGTGACAGAGCAAGACTCCGTCTCAAAAAACGAAAA
AAAAAAAAAAGGGAGAAGAAACGTTGTGGAAAAAGATGCTGGAAAAGTTGGATCCTGA
TGCAGAAGAAGTTGTATGTCCAACTGTCTGAGGGTCATAAGAGTGACTGAAGGAAATAA
GCAGCAGACACACAGGACACAAGTGCCTTTAATATTGGTG

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 222>:

GNMCJ35R gnm_222

CGAAGCCGATATATGCCACCATATAAGCGAAAAAGAGTCCGGGATTTTTTGCTCGCCAGA
CATAACCGGTTCCGGGCATTTTTAACCCGTTTATCAATCGCGCCTGCGGCCACCTTTC
10 CATGCTTCGCGGAAACAAAATATCGGGATAAGGAAAAAACGGCAACGACAAAAACTGC
TGTACATCCATAACTACTTTCCTTGTTCTTTTGTAATTCAGTAACTGTTCCGGGTGTGA
CGGCGGGATACCCCTGCGCATCTTCCGGTACCTGGTGCATAGCCGGAATAGGGACCAGCG
GCCCTAAAAAACGCGGTTACGTTTAAAAATATAAAGGTCAGCCAGCGCACCGAAACGGG
CGGCAAATTCACGAATACGTACTGACAGCATATCTTTCGGTGACGGTACGGCATAACACT
15 GAGCCTGAATCCCCATATGCAGCGCAATAAATAATGCTCGCTCACAGTGGAACGTTGGG
TGATAATAATGAAATCATTAGTATCGAAAACTTTGCGTGTACGACGATGGAATCCAGCGT
ACGAAAGCCTGCGTAATCGAGAACAATATCTGATGGGTGACACCAGCAGCGATTAAATC
TTTGCATGCGTATCGGCTCATTATAACTTTGCAATGCGTTATCGCCGCTCAGTAATAG
ATAATTTACCTTACCGCTGTTATAGGCATTAATCGCTCCTTGAATGC

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 223>:

GNMCJ35F gnm_223

CCGATGTATGTTTCACGCGTTGCATAATTAATGAGATTCAGATCACATATAAAGCCACAA
CGGGTTTCGTAACTGTTATCCCATTACATGATTATGAGGCAACGCCATGCATCCACGTTT
25 TCAAACCGCTTTTGCCCAACTTGCGGATAACTTGCAATCTGCACTGGAACCTATTCTGGC
AGACAAGTACTTCCCCGCTTTGTTGACCGGGAGCAAGTCTCATCGCTGAAGAGCGCAAC
GGGGCTGGACGAAGACGCGCTGGCATTTCGCACTACTTCCGCTGGCGGCGGCCTGTGCGCG
TACGCCATTGTGCAATTTTAATGTTGGCGCAATTGCCGCGGTGTGAGCGGAACCTGGTAT
TTCGGTGCCAATATGGAATTTATTGGTGCGACAATGCAGCAAACCGTTTCATGCCGAACAA
30 AGCGCGATCAGCCACGCTGGTTGAGTGGTGAAAAGCGCTTGCAGCCATCACCGTTAAC
TACACGCCTTGTGGTCACTGCCGTGAGTTTATGAATGAACTGAACAGCGGTCTGGATCTG
CGTATTATCTGCCGGGCGCGAGACACGCGCTGCGTGACTATCTGCCAGATGCCTTTGG
GCCGAAAGATCTGGAGATTAAACGCTGCTGATGGACGAACAGGATCACGGCTATGCGCT
GACGGGTGATGCGCTTTCTCAGGCAGCGATTGCGGCGGCAAACCGTTTCGCACATGCCTTA
35 CAGTAAGTCGCCAAGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 224>:

GNMCJ38R gnm_224

CTGATAAAGACATAGCTGAGCCTGAGGAAGAAAAAGAGATGTTTTGTTTGTGTTTGA
40 GATGGTGTCTCGCTCTGTTGCCAGGCTGGAGTGCAGTGGTGCGATCTCGGCTCACTGCA
ACCTCCACCTCCCGGGTTCAAGCAGTTCTCCTGCCTCAGCCTCCTGATTAGCTGGGATTA
CAGGCACGTGCCACCATGCCCGGCTAATTAATAATATTTATAGTAGAGATGGGGTTTCAC
TGTGTTAGCCAGGATGGTCTCAATCTCCTGACCTCATGATCCATCCACCTCGGCCTCCCA
AAGTGCTGGGATTACAGGCGTGAGCCACTGCACCTGGCCAAAAAGAGGTTTAATTGGAC
45 TTACAGTTCCACATGGCTGGGGAGCCCTCAGAATCATGGCGGGAGGTGAAAGGCACTTCT
TACATGGTGGCGGAAGAGAAAAATGAGGAAGATGTAAAAGTGGAACCCCTGATAAAACC

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ATCAGATCTCGTGAGACTTATTCACATCATGAGAACAGTATGGGGGGAACCTACCCTAT
GATTCAAATTATCTCCCACCAGTCCCCCCCCAACAACATGTGGGACTTACAGGAGTACA
ATTCAAGATGAGATTTGGGGCCAGGCGTGGTGGCTCATGCCTGTAATTCAGCACTTTTG
GAAGCTGAGGCCGGT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 225>:

gnm_225

AAAAAATTAGCCAGGCGTGGTGGCAGGTGCCTGTAATCCCAGCTACTTGGGAGGTTGAGG
CAGGAGAATCACTTGAACCCAGGAGGCAGAGGTTGCAGTGAGCTGAGATCATGCCACTAC
10 ACTCCAGCCTGGGTGACAGAGTGAGACTCCATCTCAAAAAACAAACAAAAACAAC
AAAAAATTCAACCTGGGAGGTACAAATTCAATAGGTTTGTGACAGGGCTTTGGAATCCAC
ATATTATAAAAACCTCTCAAGTGATTCCAATGTCAGCCAGAACTAGTGACCAACAATAAT
TCACATCCCATGGAGCTCCACATGGGCACTCCTGTGAGTGCAAAGCACCTTCCGGTCTCT
GGACACACTGAACTCAACCATGAACAGAAATACGGACTAATGTACAGCTGGTATTTGAGT
15 TAATTATGCCAATCATGGAAAAACAGACACAGCTTCTACCAAAGGGTGTAACTTCCA
ACTTCTCCTAAATAGCGCTGTTCTAAAGCTAGGCACGCCCATGTGGGCAGACTGAATTCA
ACCTTCTTTCCCATGACCAACACTCTCCTGACCTTAGGAAGCCACAAAATCGTTGCAGA
GAAGGAAAAGCCTTCTATATTCTTTCCCCCACCACAAAAAAGAGAAGAAGAAGAAA
AGTCAAAGCCTAAAGTTTTTAAATTTCTAGATTAATAAGTTGGTTTGGGCTAGTTACAAC
20 TCAACCTTGGAAAGAATAAAGGAAATACTGTTAATTACCCCATATGAGATTTAATAGA
GAAAGGCTTAAGGGAAGACCACCACCTAGTGACCAAAGGCAGGATGACATTTTCAGAGCA
CCTAGCTGGGCTGGCAGGCAGCAATCTGTTTTCTCTCCAAGTGACTGAGAAGGGAACGT
GGGCCAGGCACAGTTGTTTACACCTGTAATCCCAACGCTTTGCGGGGCAGGAGCGGGCA
GATCACTTGGCGTCAGGAGTTCACAACCACTGTCGCCAACATGGTGAACCCCGCCTCTT
25 CTAAAAACACAAAAATTAGCCAGGCATGGTAATCTGTGGTCCCAGCTACTCGTAAGAAGT
AATGCTATAAAGTGTAAGAAGTGGTAAATGCAGAAATTAACAGTTATGCTTTTCCATTA
GCCACGCCCTCACAGACAGCATCTGGCTTACAAAAACAAACACTGAAAGTTACAACAACA
AAAGTGAAACATACTTCACCAAAACCAATTCAAAGCCTTGGAAATAGACCAATTATGCT
AAGTGCTAAATGACATGGCAGCAAAATTAATCATATAAGGAATCGTTTTCAAGTTTGCTAA
30 ACTATTTTAATCTTTCAATCTAAAGCCTTAACAAAGATGAGCAGCACTAGCTGTTTCCA
CCCTTTGATTATGATAAATTCATCTCCACTTTCATTAATAAACTGCTAACCATATTAA
CAATCCTTCCGTGGAATCTGTCCACCACAAGTTGATTGCTGTTTCTTCAGCATCTTC
AATATCTGCCGGGATGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 226>:

GNMCJ39R gnm_226

GGGCTTGGCTGATCCATGGAGATATCTGCAGCTTGCCAGCAGCTGAAGTCTTTATTTGCC
TTTATCTCCGTTGTGGCCTCTGATGAGCCAGACTACAGAGATGCTGATGAAATCTGGGAG
40 GCAATGGTGGAGGCTGTAGTTTCCAGGAGAACTCTGGCCCTGGGGAATTCTTCCAGTC
TCTGAGTCCCTGTGGCACATCTCCATGTGTGGCGGACTAGGTGATTGCTCCTAGTGATTC
TGCTTAGTTCCCTTTATTAGAATTATAAGCTTTTGGCATGTGACTTGTAGTACATCTCA
ATAGGTAGAGTCTAATTCCTTGCCCTTCTAAGCTTTGGGCTTTGGTCATTGGAATGTGAGC
AGACACATTTTCCCCCAGCAGAAGTTTTAAATGTGCTGCATGATTTGACTTGACCTCTTG
GCAATTGCGTCTCATGTGAAGGGACATGTGGAGCAGACCTGAACTCAACCCAAACCTTGG
45 AGCCAAGCTGAGCTCAGCAGAACCTAGCTGAGCGCAGCCAAGCCAAACCCAGTGTAATCA
GAGCCAATCTGGAGACTCAGAAGCAAGAAACAATATATGTGATAGGGATCTATTGGGAG
TTGAGAGCAATTTCTCTTTTAAAGTAATTGTGATCTTTTGGATGGAGTCTCACTTTG
TCACCCAGGCTGGAGTGCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 227>:

GNMCJ40R gnm_227

5 CAATAACTTTTTTGTATAGCCATTTCATTGTCTAGATCAATGACAGAACAACATATTTTC
TTTTTCCCTCAAAAGCCCGAGTGATCATTAAAGGAAGGCGATGTAGATGTTTCAGATTCTG
ATGATGAAGATGATAGTAAGTATAAAAAGGTTAAAGCCTGGGCACAGTAGCTTACACCC
ATAATCCCAGCATTTTGGGAGGCCAAGATGGGAGGATCACTTGAGGCCAAGAGTTTGAGA
CCAGCCTGGGCAACATAGTGAGACCTTGTCTCTGCAAAAAACATTTTTTTTCAAATATT
10 TTCTTAAAAAGGCTTAAAGTAGAACTAGGCAGGGTAGTGTGTCTTTAGTCACAGCTA
CCTGGGAGGCTTAAAGTGGGTGGATTGCTTGAGCCAGGAGTTCAAGCTCTGCCTGGTGGC
AAGACTCTGTCTTCTTAAAAAAGTAAAGCACAGAATACCTGGCATCTATTCTA
ATAAGTAGACTGCAACAAATGACAACCTTTTGATGTAATCTTTTGTATATTACCATTG
ATATGCAGTCAGTTGCTCTGAATGCATTATTTATATAAATAGTCCATTTAATTTTCATTG
ATGCTGGTGGAGAAAAGTCTTGAAATT

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 228>:

GNMCJ40F gnm_228

CCGGGAGGCCGAGGCAGGCAGATCACAAGGTCAGGCGTTCGATAACAGTGTGGCCAATAT
GGTGAAACCTTGCTCTACTAAAAATACAAAAATTAGCTGGGCATGGTGGTAGGTGCCTG
20 CAGTCCCAGCTAATGGGGAGGCTGAGGCAGGAGAATTGCTTGAACCCGAGAGGCAGAGGT
TGCAGTGAGCCAAGATGACGCCATTGCACTCCAGCTGGGCGATAGAGTGAGACTCGGTC
TCAAAAAAGAAAAATAAAATAAAGACAGAAAAAGAAAAAGACCTAATATCATCTA
AAATGAAATCATACAAACAACCTTTTCCATGATGTTCTCAATGAAAAGATTTCTTACCAGT
GTTCTCTCTGATTTTCGAACAAATGGAATTTTTCCACCAGTATTGGCATGAGAAACCAC
25 GGTGCCCTATTTTTAAAAAATTAATCAATCCATGTTGACTTTACTTTCTAGAAAAGGAA
TAAAAAGGAAACTACCATTCTAAAAGCAAATATCGATAGACATAGGAGGCCAAACAGGAA
CCCTTACCTCAAAGAACTGGAACCTTTTTTGTTTTTTGAGACGGAGTTTCGCTCTTGTG
CCCAGGCTGGAGTGCAAGTGGTACAATCTCGGCTCAGTGAACCTCTGCCTCCCGGGTTCA
AGCGATTCTCCTGCCTTAGCCCCAAACAGCTGGG

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 229>:

GNMCJ41R gnm_229

ACCCTGATGATAAATTAACAACAGAATAAAGGTCACCTCTGGTTTTACCTAACAAAACCTC
AAAAGGAAGCATCAAAAGGATCAAGCTGATTTGAAAGTAACCTAAGTGTATGACAGAACA
35 AAGCCCAATACTCTTCAAAGAAATACAACTAAATCAAATACTCAACAATGTAAATCCAC
AATGCTCATCACCCAATCAAATTTGCTAGGCTTGCAACAAAAAAGAAAATATGACTCA
TAACTAAGAGAAAAATCAGTCAACAGAAACAGACTCAAAAATGACCATCATGAGGGAATT
AACAGTAAGGATATGAAGGCAGCTCTTATAAATATGGAATAGTTAAAAGACCCAGAAACA
TCCACCCACCTGTCCCGGGGTCCATTCTGTTTGCCAGCTTAGGGAAGCCACAGTGTCTAT
40 GGAGCTGAGGTCCAGCTGCTCCAGCTCACTCTCATTAAAGAGCCAGAGCAATGCGCCCCAG
GGAGACGATATGGTGTCTCTCCAGTAAGATGGCATGTCCAAACCTTTAGGCAAAAAA
GGAAATAGATTAGACTGAACACTGTGATGGTATTTACAATGATTTGAATGTTTGTGCCCC
TCTAAATGCATATGTTAAAAACCTAATCTCCAATGTGATAGTATTGGAAGGTTGGGCCTT
GGGAGATGATTAGGTCATAAGGGTGGAGCCTCATGAGTGGGTTAGTGCCTTGTA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 230>:

GNMCJ41F gnm_230

5 CCTGATCCAAATAACAATATAACAATAAAAAACAATACACATAAAAAATACAGTAGCATT
TTGACATAACATTTTGTACATATTTACATAGCACTTATATTGCATCAGGTATTATAACTA
ATCTAGAGATGATTTAAAGTATACATGAGGATGTGCATAGATTATATGCAAATACTACAC
TATTTTATATAAGGGACTTGAATATCCATGGATTTTGGTATCTTTAAGAAGTCCTGGAAC
CAATCCTTGGTGGAGGTATCCACAGGGGCAACTTCATTTATTTATGGTTAGTTCTTATT
TATTTAGCTAATTGTTAGACTTTTCAGGTTGCATTAAAAAATGCCTCAATGTATGCCTTT
10 ATACATATACTGTTGGGTACTTGTCTCATTCTACTCAGGCTAAATTTCCAGAGGTGGAATT
TCTGGGTCAAAGAATATAAATACTTTAAAAGCTTTTGATACAGATAGCCAAATTGCCCTC
TCAAGAGTATGTACCACTTATATTCTCACTACAACAAATGAGGGGTACCCTTACCTTG
TATCTTTCCAGTATCGTAAATGGTGATAAGTCTTTTACTTCTTGACATGTGAAGAATCA
ACA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 231>:

GNMCJ42R gnm_231

CGAAAACGTCTAATGCGTAACCGGAAAAGGCGTTCACGCGCnATCCGGCCACTTTCAGT
TTTACTCTTTCTCGGAGTAACATAACCGTAATAGTTATAGCCGTAACGTAAAGCGGTGC
20 TGGCGCGTTTAAATCACACCATTGAGGATAGCGCCTTAAATATTGACGCCGCTGTTCCA
GACGCTGCATTGACAAACTCACCTCTTTGGCGGTGTTCAAGCCAAAACGCGCAACCAGCA
GGCTGGTGCCACAGAACGCCACGACCGCGGCATCACTCACCGCCAGCATCGGCGGGC
TATCGACAATCACAGATCGTAATGGTCGTTCCGCCATTCCAGTAATTGACGCATCCGAT
CGCGCATCAGCAGTTTCAGACGGTTAGGTGGCACCTGACCGCGAGTAATCACATCAAAGC
25 CTCCTTTGCCAAAATGCTGGATCACTTTGTTGAGCTCATCTTTACCTGCCAGATATTCCG
ACAAGCCATGTTTACTTACCGGTAAACAGGTTATGCGAATAACCACGGCGTAAGTCGG
CATCAATAAATAACACTTTTTGATCGGACTGGGCGATCACCGCTGCCAGAGTTGAAGTGA
CAAACGTTTTTACCAGTGTCTGGCGTCGCACCGGTGATCAT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 232>:

GNMCJ42F gnm_232

CCGGCAATGGCTGGAACAGAAAGAGATCCCGGATCCCTATCGTAAAAGTCAGGACGCATT
TGAACATGTCTACGGTATGTTGGAGCGCGCCAGTCAGGAATGGGCGACGCCCTCAGCCGGT
AATTTGAGTTTATAAAATACGATGACAATAAAATATGAATACGCCACCAGGCAGCACT
35 CAGGAAAATGAGATCGATCTGCTTCGTCTGGTCGGCGAGTTATGGGATCACCGTAAGTTT
ATTATCAGCGTGACCGGTTATTCACGCTGATCGCTGTCTGCTTACTCGCTGTTAAGCACA
CCAATTTATCAGGCAGATACTCTGGTCCAGGTTGAGCAAAAACAGGGCAACGCCATTCTC
AGCGGCCCTGAGCGATATGATCCCTAACTCATCGCCGAGTCTGCACCGGAGATCCAACTG
CTGCAATCGCGCATGATTCTCGGTAAAACCATGCTGAACTGAATCTGCGCGACATAGTT
40 GAGCAGAAGTATTTTCCGATTGTGGGTGCGGGTGGGCGAGATTAACCAAAGAAAAACCA
GGTGAGCTGGCGATCAGCTGGATGCATATTCACAACGAATGGTCAGGATCAGCAACTG
ACACTCACGGTTGGGGAAAACGGGCACTATACACTGGAAGGTGAAGAGTTCACCGTCAAT
GGTATGGTCGGACAGCGTCTGGAAAAGATGGCGTTGCGCTGACTATCGC

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 233>:

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GNMCJ43R gnm_233

ACCCGCGGAAACACCCGAGCAGCCGCTCGGTGCCGAACAGTTTGACAGCCCCGAAA
 CAGGACATACATCAGCCCCGCGCAATGAGCCCCCGCCGCCGTGCCGGGCCATCTC
 CTTGATGACCAGCGCCGTGCGCGA_nTAAAGGCGAACGAAC⁵TCCCAGGAAATCGGCAC
 CTGCCCCGCGGTGACAGGTGAAAAATCAGCGTGGCGACCCCGCCCCGAACAGCGCCACC
 GAGGGCGACAACCCACCGAATCGGCACCAGCACCGTGGACCCGAACATGGCGATGGAA
 TGCTGCAACCCAGCACCCCGGCGTGC¹⁰GGCGGGAGATCGGGAAGGGGGGCGGCGCG
 GCAGTCTGCGTCATGGGAAAGTGTAGTGGGCAGGGGAGGAGACGAGACAGAAACAT
 GCTTCTGCTGTGGCCTTCTTTTCGTGCTCCACGTCCAACGGAGAAACGAGAACGCCAG
 GCGCGTGCAGTACGAATCGCGnAGCCTGCGCTGTGTAGAAATCAGGACATCAGACCAC
 CCCACCGCATTTGAGGAACACTGACCTGCACGCGCCATCACCGCAAGGTGCATAGCGCCAC
 GTTTAAGGCCCTGCCCTCTGGGGTAAGGGGTTAGGGGCGGGGCAAAAGCTAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 234>:

15 **GNMCJ43F gum_234**

20 CCCGGCTGAACAACCTGCTGCTGGTGTGATCGGGCTGGTGGTGGTGTGCTACGGTGCAGC
TCGTGGGGACCACCCTCAGCGTCACCTGCTGATCACGTCCAGCGCCGCCGCCCGCTGCT
CTCGCGGACCTGCGGACCATGATGCTGCTCGCCGCCGCTCTGGGCATCCTCGCGGGGGTC
AATGGGCTGTATGCCAGTTATTACCTCGACATCCGCGCGGGGGCGACCATCGTGTGGTG
AACACGGCTATTTTTCTAGCGCTCGGCTTCTCGCGGAAGTAAGGGCGCTTCCTTAAC
CCTCCACGGGGCAACAACGCGCAATTCCGCCGTGTCCGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 235>:

GNM CJ45R gnm 235

25 GTAATCCCAGAACTTTGGGAGGCCGAGGCAGGTGGATCACAAGGTGAGGAGATCGAGAGC
ATACTGGTCAACATGGCGAAACCCCATCTCTAATAAAATACAAAAATTAGCCAGGCGTG
GTAGCGCACGCTGTAGTCCCAGCTACTCAGGAAGCTGAGGCAGGAGAATCACTTGAACC
CGGGAGGCAGAAATTGCAGTGAGCTGAGATCATACCACTGCACTCCAGCCTGAGTGACAG
AGCCGAGACTCCATCTCAGAAAAAAAAAAAAAAAAAAAAAAAAATATATATATATATAAAT
30 ATAAACCAGTCTAGGATCAGACTTCAAGTTTCACTGAGCTGGAAGTGGCTGCCAATGGT
CCCCAGCTCTTTAGCAAAAGACATTTACACAGTATTGTATTGGAGGCATTGGGGAAA
ATGAAGGAAGTGGGGAGCAATTACAGGTGTCAGTGACTCTAACATCAAGAGCTAATTACA
AGAGCCGTGGGCAATGACAGATGCCAAACAAGATGGAGGAATCAACTTTTATATAGACT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 236>:

GNMCJ46R gum 236

CCTTCCAAGGTGCCAGCTCTGGAACGAAGGATGCCCTTGGGAGGTGATGACACTCAGGTA
 CACGGGTGCTCAACAGATTGCTTCTCTATCCTCAGACGGTCTTGCATGCATGCAGCC
 40 ATTGGCACTCCCATTGTGTGGAAGGAAACCAGCCAGGGTCACACAGCTGGTCAGCAGCA
 ACATAGCTGGTCTCAAATCTAAGGTGCCTGACCATGCCTCCATGAGGGACCGCTCCAAG
 GGAGGTTGATCCTGGCTTTGGGGAGCCTTTCCTGGGCTGCACGAATAACCTCCATTGTTT
 GAGACCCCAAACCTCTGCTCACATCTTCCCTTCCCTATCTCTGCTTGGGCTATGATCACGG
 TGACTCTAGCAGCCCTTCATGGACATTATAGTACTCTCTGCCATTCACTTTGTCTTAAT
 CTGACTTCAACCCCCACTTACTTGGTCTCTCCTTTTACAAACCACCAACCGAAATCTAG
 45 GGCTGCTTTTAAAAAATTATTTTTTTGAGACAGAGTCTCATTCCATTCTGTCAACCCAGGC

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TGGAGTGCAATGGTACGATCTCGGCTCACTGCAACCTCCGCCTCCCGGGTCCAAGGGATT
GTACTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCGTGTGCCACCATGCCTGGCTAA
TTTAAGTATTTTAGTAGAGACGGGGTTTCACATGTTGGTCAGGCTGGTCTCGAACTCCT
AACCTCGTGATCGCCTGCCTAGCCTCCAAAGTGCT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 237>:

gnm_237

CCTGGTACATTTACAAAAATTAACCTGACTTATTTTGTTCAGCAAATCTCAATATATTT
GAGAGCAATCAAATCACACAGCATGTTTCTGATCATATAACTGTGCTAGAAGTCAATGAT
10 TAAAAGCTAATTCAAATTTATTTTGTCTGGAAATTCAAAGTGCCCTTATAAGACATAA
ACATAAGAAAGAATCCAAAATGAAACAAGATTGCCTTTCAACTCAATGATGAGATCATAA
CATGGCAATAAAATGTCTCCCTCTGGCCTGGGAATTCCTCTTTGTGGCACAAGGTTGTGT
GATCTCAAATCACCGCTAACCCACCTAGACATTTTAACATCCGAAACCGAGTGATGACGT
CCTTATCTATATCATCTTACTGCCTGTGTGTGTGGACTTTAAATTCTGAACCCAAATGAG
15 GGGGAGAAAACCAAGTTGACTTTCATGACTGAGCTCTCAGGGACGTCCAAGGAATCTGTG
CATTTCAAGAAACAAAGTTCATCAGCTTCTCTCCTAAGGTATTGCCCACAATACCCAGA
GGGcTTGGCAGCATCATGTGTGATGGGTGGGAGCTCCAAGCAGGTGGGCAGGACCCAGG
GGCCTGGTGACCAGGACAGACCCCACTGTCCATCACCTTCTGGCCCTGTCTCTGTCT
AAACTTCCACAGGCCTTCTGCAGGATCACACAGAGTATGCCCAAATCTCTCAGGCCTC
20 TGGCAGCTGAAAACCAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 238>:

GNMCJ47R gnm_238

CGGGGGGAAAAAGAATAAAAGGATTTAAAAATACAACATATGTTATTTTGGGATGGAAA
25 TTCATCTGATATACACACGTTCAAGGTGTCCAGATTAGTGCTTATATCACACCCCAACA
CAATACACAATTATGGTGCAAGCCTGTAACTGACCTAGGTCAATGAAGGAATTTAAATAT
AATAAACCAGCCCTTTTACTACATACTTATATAAAATCGACAACATATCACATGATGCT
CTATGTCAAGGTAGCCTCAACAAATTCAACATTTATTCTAGCTCTGATATGGTCTGGCTCT
GTGTCCCCACCCAAATCTCACTTTTATAATTTATTTTTTTGAGGCAGAGTTTGCTCTT
30 GTTGGCCAGGCTGGAATACAATGGCAAGAACTGGGTCAACGGAACTCCGGCCCCCAGG
TTCAAGAGATTCTCTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCATGTGCCACTG
TGCCAGCTAATTAAGTATTTAAAGTAGAGATGGGGTACTCCATGTTAGTCAGGCTGGT
CTCGAACTCCTGACCTC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 239>:

GNMCJ47F gnm_239

CGGGTCAGGAAGGGATTCCCTACGGAAGTGATTTTCTGTTTGGCCTTTCTTAAGGGCAG
ATTATAATTATAAACAGTTAAACTTTGTTTAAAGGAGCCCGCACTAAGGTGCAGTGGGA
ATGAAAGGAAGTGGTAGATTCTAGTGACATTGTGAGGAAAGGTGAACTGGTCTTGAGAC
40 TGGTTTGGAGGAGGGAGGCAGACAGTAAGGGAAGGAATCCTTCAATAGTTGCTCCCTG
TGAATCGAATCTTGGTGTGGCATTAAATGGTAGTTAGAAATATGAAGAGGAGGCTGGGT
GTGGTGGCTCACGCATGTAATCCCAGCACTTTGGGAGGCCGAAGCGGGCGGATCACGAGG
TCAGGAGATCGAGACCATCCTGGCTAACATGGTGAACTCTGTCTCACTAAAAATATAAA
AAATTGGCCGGGTATGGTGGTGGGCACTATAGTCCAGCTACTCGGGAGGCTGAAGCAGG
45 AGAATGGTGTGAACCTGGGAGGTGGAGCTTGAGTGAGCCAGATTGTGCCACTCTGCTC
CAGCCTGGGTGACAGAGCAAGACTCTGTCTCAAAAAAAGAAAAAATATGAAGAA

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GAGGCAGTTGGAAGAGTAGTTCCATCTTGCCAGGTTGAGTTGCTGGTGGGCAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 240>:

gnm_240

5 CGGTAGGTTTCAGTTCCAGCTCTGCCTCTTATTGACTGCAACCTCAGGCTTAACCTTCAG
TCTCTGAGCCTCAGTTTCAACTCTGTAAAATGAGGTGGCTATACCATCTCAGGTTGCAGA
GAGAATTAAATGAAATATAAGTGCATGTAGAGCATTGAACCCAGGGCCTGGCACACACAG
TGAGTACACAATGTTAGCCAGGTAGCTTCATAATGCATACTGATTGTCAATATTCAGACA
ATGCAGTAAAGTGTACCAAAAATAAAAGTAACTTATTTGCATATGTATCTTTCAATC
10 TTTATTTTTTAAACAGGGTAAACTATGCATATCTTTCATAGCCAGTGTTTTCTCTTCA
TAGTATATTGTTAAATAATTTTACTTGGACCGGGTGCAGCGGCTCACACCTATAGTCCC
AGCACTTTGGGAGGCCGCGGTGGGCAGATCACGAGGTGAGGAGTTGACACGAGCCTGGCC
AATATGGTGAACCCCATCTCTACTAAGAATACAAAATTAGCTGGGCATGGTGGCACAC
ACCTGTAGTCCCAGCTACTCAGAGGCTGAGGCAGAGGAATTGCTTGAACCCGGGAGACAG
15 AGGTTGCAGTGAGCCAAGATTGTGCCATTGCACTCCAGCCTGGGGGACAGAGTGAAACTC
TGTCTCAAAAAATATG
TGTGTGTGTATGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 241>:

20 **GNMCJ48F gnm_241**

CCTGACTCAATGTCACTCAATTGATTCTGAGTTCAGTCTGATTACATCCGACCAAACCTG
CTTTTTCTGAAGTCTACTCCGTTTAAATCATGCTGGTGATGATTTTGTGCGGCTCTGGGAC
AACTCCACCTGGCTGAAGATAAAGCAAATCTGCGGTGACTTAGTCTCCTGTCAATTTCC
25 CATCAGTTCCCCACTCTCCTCCTCTGCCCCCTCCACAGTCTCCCATGCAGGCTGACACCAT
ATGACGGCCTTAATGGAGTCCACCGAGTATTTGAGGTTCTCTCCTGGGCCACTTGAAAGT
GGATGTACCCATGGGATTTGCTTTGACCCAGGAGATGTGCGTGGAAAGTGAAGCGTGTAC
CTCGAGGCAAAAGAGTTGGGAGCCATTGAGACGGGCCACTCTCCTTCATCTCTTAGAG
CAGCTGACAGCTCCCATATGGAGGCTGCTCCTTTATTCTCGTGGCAGGATGAGGGCATGT
30 GGGGCACAGGGCACAGGAGAGCCATGGAGGATGTGCAGCATGGGCAGGAAAAGAGCCTTC
AGTGGTGTACATTTCCATAGTTTGGGGCTGTTTCTTACCTACAGTGATACCTAGCCCATC
CTAACAGGCATGCACCATCTACTCCACACTCTGTGATGCAGACTAGCCTGCCGTGAGAAC
ACGAACTGGTGGTGCAGACACAGGTAGGTTTCAGTTCCAGCTCTGCCTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 242>:

35 **GNMCJ49F gnm_242**

AAGTAAGTTCGGAAGTACATTTATATGTCACCATTACTAATACACTTGGGGTAAGGTG
TATTCTCAAACCTCAATGTTTCATCCAGCCAGTCAAGGTGCCTTGGAATTTGTGTACCCTC
CTCAGCCCAATAGACCTTGGGCCTCTGAAGAAAACCTATTGGAAGAAAGTTTCAAGTGGGC
AGTCATGGGATTGTTTTAGTGTGGAAGGGCTAAGAAAAGAAAAGAATTGTGGACAACATA
40 AGATCACATCTCTGATGTGAGCAAACATGATTTAAAGGGATTGTTGGCTATGAACCAAAA
ATCATTTAAGGGTATTTTGTACTGGAGAAGGCCAAGGACAAAAGATATAAAGTTTCCCA
TCCTTGGGATCATGAACTCAAAGCAAAGCAAAATGGATTAATAGCTACTTCTATTTATA
GCTACTTCTGTTAATAGCTACTTGAGCATGAGCAATGGTTAGATTTTAATTCTAGAGTTT
ACAGTGAGAAATACACACATTCTAGGATTACTTAACTCACTAGTCAACCTGTCCCTCTC
45 CTTATGATGTTGACCCAATGACACTAAATCCCTTGGGCATCATGATTCTTGAATGCGGT
CTCCAAAGAATGCTGCCAACACAAAGGGGATCATGAAGAGACTGTGGGCCTTGCTTCCAA

TTTTTCTTCTTCTTCTTCTTCTTTTTTAAGTCATATGTGCCCTGACTCTTCTGGCCAGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 243>:

gm_243

5 GTACCCCTACTAAAAACACAAAATTAGCCAGGCATGGTGGTGCATGCCTGTAATCCCAGC
TACTTTGGGAGGCTGAGGCAGGAGAATCACTTGAACCTGGGAGGCAGAGGTTTCAGTGAGC
CAAGATCGCACCATTGCACTCCAGCCTGGGCAAAAAGAGCGAAACTCTGTCAAAAAAAG
AAAAAGAAAGAAAGAGAGAGAGAGAGAGAGAGAGAAAGCAGAGAGGCTACTGCAGAGAAAAGTC
TAGAAGGATGGGTTCATGGGTTCATCGAGAGACAATAGCTTAACAACCAGCACACCATAG
10 TTGGCAAAACACTATCATTGAAAAAAAACATGCTCAAAAGGGGAAATGCCAGTTTGGGT
AAATATGCTTTTGTGTGGAGAGAAAGAATTGGACAGGCCTTTTCAGACCCCCCTTAAGG
CCCCAACAAACAAATTATAATTAGACAAGTCTGGGATTTCTTCACAGCTCAGCTTGTGGTG
ATGGTATTAGCTTCACAACCTCCAACAAGTTAAGCTGTCTGTGTGAAATCTCCTCAACAA
CACCTCACTGGCAAACCTGGAGGTGCTGAAAACAGAGCTTTC AATTCTTGTTTGCAACCA
15 AGGGAGTTGAGTTGGCAGATGGGCACCTGTGTCCAGCCTTGGGAAAGGACATCGCAGACTT
TGCATCCTAAGAACTCATAACCACAACGCCAAGGTAAGACACAAGCTCTTGAAAGTTTCC
ATCAGAGTGCAGCACAAATGACCTTGGCTATGTGCCCTGTTATTGCTGGTCCCTGCTTAA
AAATCTCCTGTGACTTCCAACCACACAAATTTCTACCTGGTTGCAAAAATGCCCTTGAT
AATTCACCCCTCCCTCTATCTTGGCCCCCTTACAATGTGGCTTGGCAGCTCCTCCCATCA
20 AGAGTTAAAATCTATTTCTCACCCCTTGAATCTAGGCTGGCCATGGGACTTGCTTTGGC
CAATAGATGTGGCAGAAATTATGGCGTGACAGTTCTAAGCATGAGTCTCAAGGGCTTGG
CATGCAGCAACTTTCTCTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 244>:

25 **GNMCJ54R gnm_244**

AGGCCAAACCCCTTAGGTTTTAGGGTTTTTTCTTTTTTGGAGATGGGAATCTCCCTCTG
TCGCCAGGCTGGAATTCAGTGGCATGATATTGGCTCGCTGCAGTCTCCGCCTCTGGGTT
CAAGCAATTTCCCTGCCTCAGCCTCCCAGTAGCTGGGACTACAGAAGTGCCTACCACA
CCCGGCTAATTTTTTCGTATTTTAGTAGAGACGGGGTTTACCATTGTGGCCAGGCTGGT
30 CTCAATCTCCTAACCCTCATGATCGCGCCACTTGGCCTACCAAGTACTGGGATTACAGG
CTGACCCACCTCACCCTGGCCAAGTATTCGTTTCTTAAACAGGATTTGCCATTGGACAGAA
CGGACCTGATAGAGCAAGATGTCAAAGACTCCCTGACAAGTAAAAAAGGGGCCAGGCAT
GGTGGCTCACACCTGTAATCCCAGCACTGTAGGAGGCCGGGGCAGGTAGATCACTTGAGC
CCAGGAGTTTGAGACCAGCCTGGGCAACATGGCAAGACCCCATCTCTAGAAAAACAAAA
35 TTAGTGAGCAGCAGGCCCTGTAGTCCCAGCTACTTGGGAGGCTGAGGTGGGAGGATCCC
TTGAGCCCCAGAGGTGGAGGCTGCAGTAGAACCAAGATCACGCCACTGCATGCTGGCTGGG
GTAATAGAGCAAGACCTTATCTAAACAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 245>:

40 gum 245

45 CAGAACAAAGGGGTCTGGGAAGAATGACAGCATGACTGAAGGGCTCCGTCTGGAAGGAA
GGATAGTGTGCCACCAGGAGAAGGAGAGCCACCCAGACACCAACAGCTGAGACAATCCC
AGCCCTGGGTTTCATGGCCCAAAGTCACAGCCCACTACCAACCCCAAAwACATACCCCYT
GTGACATGTGGCTGAGCACCAGACATCTTCTCTCACCTTGCTGAGGATACCTTGCTGCT
GGGCAGGTGACAAGTCGGATACATACTGGGAGACGGCACTTCTCAGGACCTGCGAGATGT
CCTTGCGTTTTTCATGCTGCAGAAAGCCTGGGTGCTGACCCAGCAGTGCGCCCATCT

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5 GGCTGACATTGTAGAAAGACAGCACCTGGAAGAGGAGCGGTGCGCAGTCAGGCTCTGCTC
CCGCCTTTCACCTCTCCAACGTGCACTCAGCCCATCTATGTGCCAAGTATAGGGATGGGT
GACACCTTAGGGGACAGCAGTGAGCCAGACAGATGCTGCCTCCACAGGCCTTCCTTCCT
TCTATCAAGAAAGAGAGTTGGCCAGGCATGGTGCTCAGCCTGTAATCCCAGCACTTTGA
GAGGCCAGGCGGGTGGATCACCTGAGGTCAAGAGTTCGAGACCACCTGGCCAACATGGTG
CAACCCCATCTCTACTAAAAATACAAAATTAGCCAGGCATGGTAGCAGGTTCTGTAAAT
CCCAGCTACTTGGGAGGCTGAGGCAGGAGAATTGCTTGAACCCAGGAGGCAGAGGTTGCA
GTGAGCTGAGATTGTACCATTGCACTCCAGACTGGGCAACAGAGCAAACTCTGTCAGA
AAGAAAGG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 246>:

GNMCJ56R gnm_246

15 GACTACAGGTATGCACCACCATATGCTGCCCAGGCTGGTCTTGAACCTCTGGAGAGAGAT
ACATACACACACACACACACACACACACACACACACTTTTTTTTTTTTTTTT
AGACACAGTTTCGCTCGTCACCCAGGCTGGAGTGCAATGGCACAATCTTGGCTCATTGCA
ACCTCTGCCTCCTGGGTTCAAGCTATTATCCTGCCTCGGCCTCCCAAGTAGCTGGGATTA
GTAAGGCACTGCCACCATGCCTGGCTAATTTTGTATTTTAGTAGAGACAGGGTTTGTCT
ATGTTGGCCAGGCTGGTCTCAAACCTTCTGGCCTCAGGTGATCCACTTGCCTCGGCCTCCC
AAAGTGTTGGGATAACAGGCATGAGCCACTGCGCCGGGCCCCATACATATGCATTTAAAA
20 AATTTATTTATTTATTTTCGAGACAGGCTCTACTCTGTTGCCCAAGCAGGAGTGCACTGG
TGCTATCTCCAGGCTCAAGCAATCCTCAGCCTCCCGAGTAGCTGGGACTACAGGTGTGT
GCCATCACACCCAGATAATTTTAATTATTTTATTTTAAATTTTTTGTAGAGATGGAG
TTTACCCTGTACCCAGGCTGGATATTTTGTATTTTGTATAGGCTGTACAGTTTCCA
AAGTTGCAACCTTTCCCCCTCCCTGAGAGTAGGG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 247>:

GNMCJ56F gnm_247

30 CTGTTTAACACAGTAAGCAGGAGCTCGATAAATATTAGGAATCATATTACGCTAATTGTT
TTACAAGGTTTCTTCACTTACACGTATAAATTAATGAAAAACATAGCATCCTAATGAC
TCTGAAAGTTAAACGCCAAGAGTGCTATGGGGTTAGGGATTTTAAAGTGGAGCAAAAT
AAAGACTGCGAAACAAATACGTGTGCGAAACAAATTTCAAACAAAAAGATGTAATATT
CAATTTGCCATGAGTGACAACGTTCCGCTGATAACCCACATAGCCCAGGGAAATCCCTTC
CAAATTTGGACGAAGAAGAGGGAAGGAAGAGGGGTCAAGGCGCAGAAGGCAGTACCCAGG
CCTGGGAAATCACGAAGAGACACAGTCCGGAAAGTGGGCCTCCAGAACAGAGAACATACT
35 CACTTTTCCAGGCCCCACCCATGTCTATTACCCAGTTAGGAGGAATGAGCTCATTCTGT
GAACGTGAGATGACCCCTCGACCCCGTGCTCCTATCACACGCCATTAGCTTTGTCCACAT
CCTTTCAATCCGCTCCTCTAAGCGCGGTCTGAGCTTTGGTCCCAGACGCGCAGAAGGAA
GCGGCCTGAATCTTACCCAGTCTCGACGCGCCAGCGTCTTGACTGCAGAGGACGAAGC
GGCCGCATCTCCCGACAAACAACGTGTGAAGCAGCGGTGCCGCCATT

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 248>:

GNMCJ57R gnm_248

45 CAAATTTGGTGCTTAACGAATATTTGTTGGGTGGATGAAAGCAAGCACTGACTGTCAACT
ACTATCACTGGGGGTGATTAACCTTTGTCTCCTCATGCCTGGCCCCAGTCTGCACTTAGTA
GGTGATGGTAATAATAATAAATATCTAACACTTGGACAGGCATGGTAGCTCACATCTA
TAATCCCAGCACTATGGGAGACCAAGGCAGGAGGATCACTTGAGGCTCAGAGTTCAAGAT

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5 CAGCCTGGGCAACACAGTAAGACCCTATCTCTACAAAAAATAAAAAATTATCCAGATGT
GGTGGTTCATGCCTGTAGTCCCACTACTTGTGAAGCTGAGGTGGGAGGATCCCTTGAGT
CCAGGAGGTCGAGGCTGTAGTGAACCATGATTGCTGCACTCCAGCCTGGGTGGCAGAGCG
AGGCCCTGCCTCTATAAAATCAAATTTTAGGCCGGGGCAGTGGCTCACGCCTGTAATCC
CAGTATTTTCGGGAGGCCAAGGCAGGTGGATCACCTGAGGCCAGCGTTCAGACCAGCCTG
GCCAACATTGTGAAACCCGTCCTTTACTAATAATACAAAACCTAGCCAGGCGTGGTGGCAC
ATGCCTATAATCCCAGCTAGTCAGGAGGCTGAGGCAGGAGAGTTGCTGTAATCTGGGAGG
TGGAGGTTGCAGTGGGCCGAGATCATGCCGCTATACTCCAGCATGGGTGACACTCCAGCA
AGACTCCATCTCAGGGAATAAAAAAATCAAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 249>:

GNMCJ57F gnm_249

15 CCAGAAATCTGCCCCATGATCCAATCACCTCTCACTGGGCCCCACCTCCAACACTGGGG
ATTACATTTCAATAAGATTTGGGTGGGGTACACATCCAACTATGTCAAATATAAAGTTT
AGTAAAAACTTAGAAATAGCACCAAAACCAAAAAAGGGGTAGGTACACATACATTTTTTT
GTTTTTTTCTGAGACAGGGTTGTACTCCCATCACCCAGGCTGGAGTGCAGTGGCATGCTC
TCGACTCACTACAACCTCAGCCTCCTGGGCTCTGGTGATCCTTCTGTCTCAGCCTCCTAA
GTAGCTGGGATGACAGGCTCATGCCACCACGACTGACTAATTTTTGTATTTTGTAGTAGAG
ATGGGGTTTCACCATGTTGGCCAGGCCAGTCTTGAGCTCCTGACCTCAAGTGATTTGCCT
20 GCCTCGACCTCCCAAAATGCTGGGATTACAGGTATGAGCCACCACACCTCGCCTAACCTA
CATTTTTTGTGATATTACCAGATTGCTCTGCTAATAGTGCACAGTTTGACAGTCCCACG
GAAAAATGAATGTGCCCAGCATTAAGTATTAGCACTTCATTTTTATTTTGTGACAATCTGAT
GGGTGAAAAGTGATTTACTTATGTTTTTTAGACTTTATTGGATTTTCATTGAAGTTGAGT
ATCATTTTATAGGATTCTATATAGAGACCACATTAGTGGGACTAGGGGATAGAT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 250>:

GNMCJ59R gnm_250

30 ATCAGAGTCACTTCATCTTCTGTGAAATTTGCAAAGATGCTAGGAGGTTCCCTCCTGCT
GGGACACCCAGCCAGACACAAACCATTAAATTCACAATTACATGGAGTTTCACTGTCTG
CAAGGCTGCTCCATTTAAGCTCTGGGTCTGAACACATAACTCTAGGCATACTGACACTA
GCTGGGAGATTTCCACCAAAAAAAAAAAAAAAAAAATGCCATTTTCATGACTATTAATCCA
AAATAGGTAAATGTGTCTGGCTTATAGAATACCAGCCTGATTACAAATGCTTGGTGTGG
AATGGCCAGCTCACAGTGGTGTAGAAAGTCCAGTAGGCCAGGCTTTGTGGCTCACTCC
TGTAACCCAGCACTT

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 251>:

GNMCJ59F gnm_251

40 CCGCCAAGCCGGGCTCCGCAGTTGAGGCGCGCGGGGGCCTGGGCGGAGGACTCACGGG
GCAAAGCGCTGGGGGAGCGGGTGGGCGCCACCGCTGGGCCCTCCCTAGGGAAGGGGTGCA
GGTGATGGATGGCGTGGGGGACAGACCGAGAGAAAGAGGGTGGGCAAAGTGTGGGTGCAG
CGGCTTTAAGGGCTCCTGGGATTGGAGGGCACTTGGAGGGGGGGGACGATGAACTTCGA
GAAAAGGGATCCAAACTACTTAGTAATATAATAACAGCGATGACAACGTGTGCAATAAC
TATCACAATGATTATTTGTTATAATAATATAGCAGCAGTAAAAACAATAGCATTAGTAAT
AATAGCTACGATTCATTGCATTCTTATATGTGCCAGTGCTGGGCTTAGTTCTTTATGTAT
45 TTTATGTATAAAGTAATGCCTACCTCATAACAGTTGTGTGGAAGAAATGGAAAAATGCAG
GTAAAGGCCGGGGCTCACACCTGTAATCCCAGCACTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 252>:

gnm_252

5 CGGTACCCGACCATCATCATCGTGGGACTGACTTTGGTGGAAGTCCTTG GTTACATGTCA
TTATTGCATTTCCGACAAGTTATAAAGTTGTCATTACCCTCTGGATAGTTTACCTTTGGG
TGAGTATACTAACTTTCTGTAGAGGTATACTTGTAATCACAAATAAGAATAAATTATATA
AAACAATTCACATTTCTGGACTTCATTATGAATATGTGGTTTACCCAAAAAATCAGGGA
AATGATTTATTAGTATAAGAATTATGAAAACATCTGCCATTTGCATTATGAAAATTAAAT
10 AGGTCGGTGTGTTGTTTAAATAGAATGTCAACAGAGCTTTTGGTCAAAAAATAAGTTT TTTA
ACCTTTGTGCTATTTATCACAAATGGAGTATGAGGTTTCGTCACCTTAAATAGGAAATTCT
TTCTAAACTCTTCTGCTTTATAGTTCTATCGTATGGGTGGAAGGAAAGCTTCCAATCTCC
TCTCTGAAGATTCACCTGCAGAAATGAGCTGACAACAGACAGCTTAACAGGAAAAGAAAA
CATAGAACAGGCATAAACATGGGAACCAGCTGAAAAATGAGACTGCTAGAAGGGCCGGAT
15 GGCTGATGCTTAAAGAGCACCTCTTCTGAGGGGAGAGGGAGATAGATGGAGATGTAGGC
CATTTAGAGGGGCAGCAAATGATTTTTAGGGGAAATGAAAGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 253>:

GNMCJ61F gnm_253

20 CTGCTTCAGCCTCCCAAAGTGCTGGGATTACAGGCATGAGCCACCACACCTGGCCTGAAA
TAATATCTTTCAAATCTTTGTAGAATTGTTTTTTCCTGATTTCTGCACATAGGATAAA
AAAAAAATCATGTACTAGGATTTTCGAGAGAAGCAATGGGTAATCTAAAAAGATGAAAAGA
GCAACCACGTCAATCCACAGCTACTGCTAGATTTTATAGGAAAGGTAGCTGGCCAGTT
TGGAGCTAGGGGAAATGTCAAACACATGAAGAAATGAGAAGCCAAGAAATGCCATCACGC
ATGAATGCTTCATGGCACCCATGATGTCCCTGCTAAGGAGGTAATGGTATAGATGACTAG
25 ATGACAAGGACAAAGATGAGAGGTGCGAAGTTGTCCAAGTCCAACAGCTCAACTGAAGTT
TCCTAAGTGGAATTGTTAAAAAGTGGTAAATTTAAAAACTTCACCTGGCTCACGTGGTGG
CTCACGCTTGTAATCCAGCACTTTGGGAGGCTGAGGTTGGTGGATCATTTGAGGTGGG
TTTTGAGACTAAGCCTGGCCAACATGGTAAAACCCC

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 254>:

GNMCJ63R gnm_254

CGGCGCAAATCACCTGGATGGGTGTGAAAGATTCCGACCATAACCGGAAAGACGGAACGC
GCATTGAAACGGAAGGCGACGGAATGTGCAAACGCGACTTGGGGTGAAAACCTACCTGA
ACAGCCATCACACGCGTGACGATGGTAAACAGCGTGAGTTCCAGCCTTACATTGAAGCGA
35 ACTGGATCAACAATAGCAAAGTCTACGCCGTGAAGATGAATGGTCAAACCGTAGCCGTGA
AGGTGCGCGTAATCTCGGTGAAGTACGTACCGGGGTTGAGGCGAAAGTAAATAACAACCT
TAGCCTGTGGGGGAATGTCTGGTGTGCAACTAGGTGATAAAGGCTATAGCGATACTCAGGG
CATGCTGGGAGTGAAATATAGCTGGTAAACCGTATAAGCCGCATGTCGAGATGGCATGCG
GCTTAATATTGCCGACTTCAAACGGCGCATCAACGCCTTATTTAAATCCTCCTTTTTATC
40 CGCGATCGCGGATATCGCAGCGTTTATCCCGTAGAGCGGATAAGATGTGTTCCAGATTG
ACTTATCCTCACTAAAGGATAAAACGCATAATATCCCTTAAGCGGATAAACTTGCTGTG
GACGTATGACATGATGAGCTTTCAGAAGATCTATAGCCCAACGCAATTGGCGAATGCAAT
GAAACTGGTTCGCCAGCAAATGGCTGGACGCAGAGCGAGCTGGCGAAAAAATTTGGTAT
TAAGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 255>:

GNMCJ63F gnm_255

```
5  CCGGCTTAACCGTCCATGCAACCTCAACACATTGCTTTCAACTGCCGTCACCACGTTCTC
   CGGAAAATCTGTCCGTAATGAAGTCTTACGTTATCCAGTGCTGCTGGAATCATTCTGGC
   AAAGTCACTCAGGATTTATGCATCTGCACCTCCGGGAATCTCAGCACCTTTGCTGTGCGC
   CAAAAAATGTCGCGGATAAATTTTATCGATTGCCGTTTTTTGCTTTGGATGCGTTAAG
   CCCATTGCCAGTTTGAGATCGCTGATGTGATTCCCGTACCGCCAAGGACCGGAAATGC
   TGAAATGATGTCGTAATAATGGCGTGAGTCGATAACTGCCGCCAGCCTGAATAAATACGGA
10  GAAGTTTTTTGCATGACCGTCCGTTGCGCCAATCAACCACTGGAAGACCTGGAATTTTAT
   AAAATCATAGCGATCTTTCAGCGCCTCGCTGGACCCATCAAAAAAGCCATGATCCGCGC
   GATGCTGGGCCTCCATCTGATTTCATTTTACCGATGAAGGTAAACCGAATGTCTGACA
   CATATCCTCCTGTGGCAAGCGAAGTAAACCGTTTCGCTCAGCATTCCAACGCTGTCAA
   ACGTTCGACCGCTAACGCGCGCACATTTCCCGCTTTAATGATTTCTGCGTCCGGAACATT
15  CAACCAAGTTCCTTCGCCAGCAGCAGACAGTAATACTCATTATCACCGCTTTGGCTGAG
   ATCGAGCGTC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 256>:

GNMCJ68R gnm_256

```
20  GTACCCCATACAGATCACCTGGGGATCTTAAATGCAGATTCTGATTGAGGAGCTCTTGGT
   TGAGGCCAGGACTCCCATCTTCTCTTCTTCTCTTCTTCCCTTGGCCTCCCAAAGTG
   TTTGGATTACAGGTGTGAGCCATTGCGCCAGCTGACGCTGCACTTCCAACAAGCTTCCA
   GGTGATTCTGGAACCGCTGCTCTGGTGAGCACACCTGGAGCGGCAGGAGATAAAGCAGTG
   GTTCTCAAACCTGCCTCTAGATTAGTAACATCCCTGCCAGGTGCCACCTCAGAGAATCT
25  GATGTTATTGTTCTGGGGTGTGGCTGAGGTATGGCTGATTTTAATGCTTCTCAGGTGA
   TTTCAATGCAGCCAGGATTGAGAACACTGGATTGCAGGGTGGTTATGAGTTCCCAAGACC
   AGATGAGCAAACACGCTCTCTCTCATTTTCTTCTCTCCATCTCTCTCTTCTTCTTCC
   AGTCAAGTCTCAATTCTACCCCTTCCATTCCACTTTTGTGGCCCTTTCAATTTGCTT
   AAAATCGAAACGATGACATGAAATAATATTAATGAAATTTTGATAAAGCCATCAATAA
30  TTTCACAGCAGTATCCACACATCACCATAAAGTCCCCAACACATTTGACATTTGAGAG
   TGTGGTCATCTATTTAGGTCAGCGCAT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 257>:

GNMCJ68F gnm_257

```
35  CCTTTACTCTTCTTAAATATCTCTTGCACCTCTTGCACATTTCTATGATCATTTTAA
   TAATTATTTTATTGCAATATGCCTGCCTAATGATAGTAAAGTGTGCGTTACAGCTGCTTT
   CGGTAAGGAATGTGATAAAGTCACCTACTATACAATGAGCTCTGTAACAAAAACAAGAA
   TGGTTCATATTTTAACACCCGAATTTACGTAATAACGTAGTCATTTCAGGCAGGTGCACA
   AAACGGGTTTCTGGCAATATTGAAATAGCCACTGGGGGGCAGCAGAGTGAAGTAGAAGAA
40  ACAACTGTCAAAGCGCCTGGGTCTCTAAGTTCGGCAACTGCCTTACCTAGAAATCAGTT
   TCCACATCTGTAAACGAAGGGGTGGACTACAGTGGCAGCTCCCAAAGTGTGGAGCACAC
   CCAGCGGCATCTGCAACACCTGGGAACCTGTTAGAAACGCAGATTGCCAGGCTGCTCCCG
   GACCTCCTGAATCAGAGACTGGGTGGGGCTCCGAAATCCAGGGATCCCCAGACTCCGGGT
   CACAGATGGGGACCACCGGACCTGGCCTGTTAGGAACAGCCACAGCAGGAGGTGAGC
45  AGCAGGCCAGTGAGCATTACCGCCTGAGCTCTGCCTCCTGCCAGATCAGAAGCGGCATTA
   GATTCTCCTAAGAGCAAACCTATTGTGCACTGTGCA
```

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 258>:

GNMCJ71R gnm_258

5 AAAGTTGGAGGGTACTTTTGTGATGGGTTTGGTTTAAATTGGTTTAAATATAAGACACA
TAGTCCATAGAGAATTCACCTATGGACTATGCTGCTAAGAGAATCTCAAAGAGATGCACT
GTTATGCTCCAGAGTTTGTGAGAGGCCACTAAGGTCAGGAGACACATGCCATATATATC
AAGATGCTGTCAACAGAGAAAACCACTGAGGTTTCAAACAGAAGCCCCGCTCCATTCAAC
CAGGCAGCCACTCCTCATTGCAGGTGCTGACCTGGGCTTGGCTGCTTCTCACATGGGCA
10 ACTCTATACACTCTATTCCTGGGAGAAGGGCAGCAAAGACCCACTTATTAAATGATGTTT
ACAATCCTCGGCCGGGCGGGTGGCTCACGCCTATAATCCCAGCACTTTGGGAGGCCGA
AGTGGGCGGATCATGAAGTCAGGAGATCGAGACCATCCTGGCTAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 259>:

GNMCJ73R gnm_259

15 ATTTTCATGGACAGCAACTCATCTTCTGGTTTTTATTTTTATTTTATTTTATTTGACACAGG
GTCTCACCGTTACCCAGGCTGGAGAATAGGTGTGATCACGGCTCACTGCAATCTTGACCT
CCCAGGCTCAGGTGATCCTCCACCTCAGCCTGCTGGGTAGCTGGGACTACAGGCATGTG
CCACCATGCCTAGCTAATATTTTGTAGTTTTTTTTTTTTTTAGAGGTGAGGTCTTACCATG
CTGCCCAGGCTGGTCTTGAATTCCTGGGCTCAAGTGATCCTTCTGCCTTGGCCTCCCAA
20 GTGCTGGGATTAAAGACATGCGCCACCGCACAGCCCATCTTCCATTTTTATAGGAAGGC
TGCTGCATAATTTTGAATCTTTATGCTGGGCTGCAAACTCAAAGGCATAGGGGGTAAGA
TAGGCAACAGAAATTGTGTATCGAGTGCTTACTGTATGCGTGGCACTGTCTAAGTGCTT
TACATATAACACATTTAGTTTTTACAACCATCCTATGAGGCGATTTTATTTCCATTTTAT
AGACAAGAAAACCTGAAATACAGAGAGGTTAAATAG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 260>:

GNMCJ73F gnm_260

CCCTCTACTAAAATACAATTATTAGCCAGGCATGGTGGCTTGTGCCTGTAGTCCCAGCTA
CTCAGGTGGCTGAGACACAAGAATCACTTGAACCCGGGAGGCAGAGTTTGCAGTGAACAA
30 CAGATCGCGCTGCTGCCCTCCAGCCTGTACGACAGAGCAAGACTCTGTCTTAAAGAAAA
AGAAAAAAGAAAGAAAGCTAAAACAGGCCACAAAGGGACCTTTTCCTTTTATTTA
TTTATTTTGTAGACAGAGTCTCGCTCTATCACCAGGCTGGAGTGTAGTGACGCAATCTCGGC
TCATGGCAGCCTCCGCCTCCCGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGC
TGGAACCTACAGGTGCATGCCACCTGTAGAGATGGGGTTTACCATGTGGGCCAGGCTGGT
35 CTCGATCTCTTGACCTCGTGATCCGCCTCCCAAAGTGCTGGGATTATAGGCATGAGCCAC
TGCACCCAGCCTATTTTTATTTATTTTGTAGACAAGGTATCAGCTCTGACGCCTAGGCTA
GAGTGCACTGGCGCAATCTTGGCTTACTGCAACCTCCACCTCCCGGGTTCAAGCCATTCT
CCTGCCTCAGCCTCCTGAGTAGCTGGAACCTACAGGCACATGACACCACGCCTGGCTAAAG
TTTGCATTTTGTAGTAGACAGGGTTTCACCATGT

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 261>:

gnm_261

TGAAATAATGATGTGTTTGTATTTTATAATCTATGTTGTGTCCTAGTTTTTCAGTGGAAT

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ATAAATAATGATGGTAACTTAGATTCAATGTGAACCTTGAGTAGGGGTACAAGTTCAAAA
TCTGTATAAAAAAATCTATATTAAATGAGAGAAGAGGCTGGGCGTGGTGCTnCACGCCT
GTAATCCCAGCACTTTGGGAGGCCAAGGCAGGAGGATTGCCGGAGGTCAGGAGTTTGAGA
5 CCAGCCTGACCGACATGGTGAAACCATCTCTACTAAAAATACAAAGATTAACCGAGCG
TGGTGGCGGGCACCTGTAATCCCAGCTACTCAGGAGGTTGAGGCAGGAGAATCGCTTCAA
CCGGGGAGGCAGAGATTGCAGTGAGCTGAGATTGCACCACTGCACTCCGGCCTGGGTGAC
AGAGGCrCTCCGTCTCGAAAAAAGAGAGAGAGACAGAAGAGAATTTTATTAG
GAAATCTAGGCAATAAAACACAGAAATTTAACTCTGAGCGTCCTGGCTACCAAGCAGGT
10 AGGTCAGGATTTATTTATTTGATGGATGTTGCTTAAAGCCTCCTTGTGTCTAGAGCAGT
CAAATTCATAGAGACAGAAATTAGAATGGTGGTACAGTTTCGATTTTGCAAGGTTCAAAA
TATTCTGGATATGGCTGGTAGTGACGGTTGCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 262>:

GNMCJ77R gnm_262

15 CCATTACACTCCAGCCTGAGGTGACACAGCGAGACCCTGTCTCAAGACGAAAAAAGTTCT
ACTTGCAACACTCCACACAACCTAGTGCAATTCTTGGTATGTCAAATACCAAGAATGAGA
ACTGCTGATACAAAATACAGTGGAAACACAAAGAAAATGTCCCTTTGTATCTGGGAAAGGA
GGCAGGGGTGAGGAAAAGCTTTAAAGAGAAAGTGATGCTTCAGCTGTCTTTAAACAGTAA
20 CACAGTTGAGTCTTTTCTGGAAGTTCTGCTTCTTACAGAAGGAAAAGTATGTATTAGAA
AACTGAAAAATGTTTCAAGTATGGCTGGCATGTATAGTGACCAAGCCAACAGATAATAAATC
TGGGGAACAAAGAGCACCAATAGACCATGGAGGGCCTTGTAACCAGATCTGTAATACT
GAGAGATCTGGAAGTGTGGGAAATAGACTCAATGAAGGAACAACCATGTGCTTAGAGAGA
ACCAGGGAAAGCTCCATGAAAGATGGAGCCAGCCAAGAGTGGACATGATAAGTTTGGAG
25 CATCTATGATGATTCTGGGTAAATGCATCTAACAGACAGTTAAGAACCAAGCTAGGCCG
GGTGCAGTGGCTCACGTCTATAATCCAGCAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 263>:

GNMCJ77F gnm_263

30 CCGAACAGTCTCTGACTCAAAGTAAGGGCAGTAATTGTCATCTGTTGTTTTGTTCCAGC
TGACTGTGCTGTATCATTTCTCACTCACATTTAAGTCCACTGTTCTTATCACTGTAGTAA
TTACCCTGACAGATTACCCATGTTTTTTTTTACATGCTGATTTCACTGGACTTTTTTTG
AGACAAAGTCTCCTTCTTGTACCCAGGCTGGAGTGCAGTGGTGTGATATGGGCTCCCTG
CAACCTTTGCCTCCTGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCCAAATAGCTGAGAT
TACAGGCACCCGCCACCATGCCTGGTTAATTTTTTTATTTTATAGTAGAAACGGGGTTTCA
35 CCATGTTGGCCAGGCTGGTCTTGAACCTCTGACCTCAGGTGACCTGCCTGCCTCGGCCTC
CCAAAGTGCTGGGATTACAAGTGTGAGCCACTGAGCCAGCCTCAGTGGACTTACTTTTT
TAAGCCTTGTATTCCTTGTATCAGCCGACACTGTTGGCCACCCACTTCTTAAACTTCAG
TGTTTCTGATCCTCCTGTCTTCTGATCCTTTAATCTCTCTTTTTTnTTTTTTTTTTTT
40 TTTTGCTCTGTGCGCCAGGCTGGAGTGCAATGACGCAATCTTGGCTCACTGCAAGCTCCA
CCTCCCGAGTTCAGTGATTCTCCTACCTCAGCCTCCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 264>:

GNMCJ86F gnm_264

45 CCTTGCCTTTTAGGAAGAAATAATAGATGGAAGCTATCTGAATGGTAATGTGCCCCCTTG
ATCTCCACTTGCTTCTTCTAAGAATTTCAAACAGAATGTAGCTGTGATCTCTCTGGAATG
ATTCCTTTTAAAGATGTCTTTTCATTTTACTCCATTGTAGCACTGCTGGATCTCATACA

5 GTTTCAAAGGTAAAATGCCCTAGAGGAGAGGGGAAGGGATGGTATAGATTTTAAATAAAA
ATTCTTAATGGAAGTCTCTTAATTGTAAAAAGTAATATGTGCTCATTACAAAAATGTCA
ATCAATGCACAATGTGTTAAAAGTCAACAAACACCCCTTGCTCCACGGGCATCATTCCCTCC
TCACTCTAGCATAAGGGCCAATTTTTTTCTTTTTTTGAATGGAGTTTCGCTCTTGTTGC
10 CCAGGATGGAGTGCAGTGGTGTATCTTGGCTCACTACTGCAACCTCTGCCTCCGGGGTT
CAAGCAATTTTCCTGCCTCAGCCTCCTGAGTAGCTGGGGTAACAGGTACCTGTCACCATG
CCCGGCTAAATTTTGTATTTTAGTAGAGATGGGTTTTACCATGTTGGCCAGGCTGGTC
TCAAACCTCTGACCTCAGGTGATCTGCCGGCCTCAGCCTCCCAAAGTGTGGGATTACAG
GTGTGAGCCACCGCAACCGGCCTAAGAGCTGAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 265>:

GNMCJ88R gnm_265

15 GTACCCTGTCTAAATTTGCCGTCCGTTGAGGTAGAAGGCAAATTTGGAGTTTCTTGTTT
AGAAAAAACTACAGATGACTACTGTGCACCTGAAAACAGCACTCAGCTTCACTAACGA
GACATGCAAGCTAGAATCAAATGTCTGTTTTGTTTTGTGCTGTCGTGATTGTTAGCTG
AAACCAAATCACAAGGTCTTTTTCTCCCTCTGTATTAGCTCAGCATACACTGAGCTTACA
AACGTATGAACCTCAGTTGTCGTGGAATCTTACAGCCTGCTACTTCCTAAGTATCCTTT
AGAGAAGCTGCCTTGGTGACCAATGAATGTGGTTAGCCTAGTGATACTCTTCTGGGCCAT
20 ATACTGTGTGACTATCTGCATGGACCTTTATTGAAAGCATTTCTGCAAATAATTTTTTA
AGTGTTTTTTAAATGTGTGATAATTTGTGCTTTTAAAGATATCTTACACTTTTCACTTAT
TTGTACCTTTAAAAATCTTTTTTTTTTTTAAACCAAGGTTTGCAGTATCCTCAGAGTCT
GAAATTTGAGCGGATAGTGATGAGCCAGCCAATCCCTGAAGATTT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 266>:

GNMCJ88F gnm_266

25 CCAGTTCGAGACCAGTCTGGCTAACGTGGTGAAACCCATCCCTACTAAAAATACAAAATT
AGCCAGGTGTGGTGGCGCATGCTGCTAATCTCAGCTCCTGGGAGGCTGAGGCAGGAGAA
TCACTTGAACCCGGGAGGTGGAGGTTGCAGTGAGCCAAGATCGCACCCTACACCCAGC
CTAGGAAAAAAGAGTGAAATTTCACTCTCAAAAAATAAAATAAAATATGACAGTAAT
30 CTCTGTTTATTAAACACATAATGTGCCAGGTACTATTGTGGTCAACCTGCAAAGACATGG
ACCCACCAACCAAAAATTTGTTTATGATGTCAAGACTGATGATACACCACATGCACCAAG
AGGGTAGGAAAAGGTTTATTGCTCATATAATGAAGCTTTCTGAGAGAGCAGGGCAGATTC
CCAAGCAGGTCCAAAAATGGTTTCAGAAAACAGGCAAGGAACTCCCTTAGCATTTATG
GTGGTTAGGGATGGGGATGGGGATGGGGATGCGATGGGGATGGGGATGAAATGTGGGTCT
35 GGTGGGAGGGCTAGGGCTTGTGGGTATGAATTTCCAGCTGGTGCCAGAGGAGAGAGCAG
CAGGCTTTCTAGCTTGCCAGATGTGGGGCAGAGGGGAGAAGGAGGGTGGAAGATGTT
AGCAGTCCCATATCAGAAGTGAGGCAGACTGTTT

30

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 267>:

GNMCJ90F gnm_267

40 CCGAATGAAGTAATCTCTTCATTGTATTTTTTTTTTTTTTACTTATGCTGAGATTTAA
TGACAAAGATTATATAATCCAAGAGAGAAGTATTATTTAGAGGGATTCTTTTACCATGT
GATATATAATAAATGCATCCAATGTTATACATCAATTTAAAAAACAAGTAAATAACTTTA
AAGAAAAGATAACTACTGGCCAGGTGCAGTGGCTCACACCTGTATCCCAGCACTTTGGG
45 AGGCCAAGGCAGGTGGATCATGAGGTGAGGAGTGGAGACCAGCCTGGCCAAGATGGTGA
AACCTGTTTCTACTAAAAATACAAAAATTAGCCGAGCGTGGTGGCAGGCGCCTGTAATCC

45

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CAGTTACTCAGTAGCTGAGGCAGGAGAATCGCTTGAACCCGGGAGGCGGAGGTTGCAGTG
 AGTTGAGATCATGCCACTGCAATCTAGCCTGGGTGACAGAGCAAACTTTGTCTCAAAAC
 AAAAAGAAAAGAAAAGATAAGATAATTACTTTATACTTAGCTTGTCTTACCCATGAGTGA
 CGGGCTGCATGTGGCCCAGGACAGTTTTGAATGCAGTTCAACACAAATTTGTAACTTTC
 5 TTA AACATTAGGAGATTTTGGCCAGGTACAGTGGCTCATGCGTGTATCCCAGCACTTT
 GGGAGGCTGAGGCGGGCAGATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 268>:

GNMCJ91F gnm_268

10 CCnTGTCGCCCAGACTGGAGTGGAGTAGCATGACCATAACTCACTGCATTGCGGAACTCC
 CATGCTCATGTGATCCTCCTGTCTCAGCCTCCTGAGTAGCTGGGACCACAGACATGCATC
 ACCATGCCTGGCTAATTTTTTAACTTTTTGTAGAGACAGGATCTTGCTTGCTATGTTGCC
 CAGGCTGGTCTCGAACTCCTGGCGTCAAGCGATCCTCCTGCCTCAGCCTGTCCAAATTCT
 TAACACTATACTATTCTGCCTCCTATACTAATCCCACAGAAATAAATTTCTTTATCAAA
 15 TTAACCTTAAACAGACCATTCACTTCTCACAAGACAGATAGTCAGAAATACAGGATCGAT
 CTGTGTTTTCATGGTAATACCTGGCTCCTTCCAAGTTCCTTATCCTTCAGGACTGTAGAGT
 TGAATCCAGGTTGCCTCCTTAAATCAAGAGAGACACTTCCTTAAAGAAAGCCCCCTTGTA
 TCTCCACGATGCCTGGGGCAGTGTCTTCCGCTTGGACCATCTGCCAGAAAGCGAGAAGCAA
 CAAAACAACATTGTAAAAAATGCATTGAGCTTTGAGGAAGGGCCAGGCACTACATCACAG
 20 GCAATAAAATCCATCAGAACCGCTCAGCAACCCTAGGAAGTGGAGAGTAGCATCATCCCC
 ATTTACAGGTGAGGGAACAGAGACTTAAAGTGTGATGAGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 269>:

gnm_269

25 GTACCCCATGGGTACAGAGGAAAAGCAAAGAAAGGAAGGATAAGGATGGGTGCGTAGGAA
 GACAACCTTCCAATTACAAGGCAGAGTAGCTCTGACCTTCTAGGAACAGGTGAGCCCCCTa
 aGAACGTCCCAGGGATGGAAAGCAGGTTCTCCTAACCATCTCAAAGGCACCCCTCTTAG
 GGTGATTGGCCAAATAGGACATGTTACCAACACGTCTCAAGAGAAAGACAGTCTGGTGG
 ACTTCAGTATTCCCTGATGCATCCAGTCAAGTCTTATGGGTGAATAATTTGTTCTTGGG
 30 GAAGGGTTTCAACAGCATCCTTGTCCAAAGATATCTTCATGGGCCACTGAAAGAAACTGG
 CCTCCTAGATAGGTCTATTACCTTTAAAGGGTTTTTCTTCAGCTTTAACAGATACAATA
 GATTTGGAATGCAAATGAAAAAATGACAAACCTACAAAAGAATCAAAACAGTATACAA
 CACTGTCTCTATCCACAAAACAAATGGATCTTTAAGTGCAACCACACAAAAGAGATGAC
 AAAAGCCTTACATACAGGGTTTTATATATAAmAmAGGAGACACTTTATTCTAAAATCACC
 35 ACTTAGAAATATAAACATCTTGACAGAGTAGGAATTTTATTCACCTTAAAAACATGCCA
 AAAACATATGGGAGATATTTCTGACTTGAGACAATGCTATACTCTTTTTTAAGCATGATA
 TAAAAGTACTCGGCAAATTAGGCTACTTACATAAGAGAAATAAATTTAGCTCTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 270>:

GNMCJ95F gnm_270

40 CCTGCACTCCAGCCTGGGCAACAAGGGAGAACTGTCTCAAATAAAATAAATAAATAAAT
 AAAATAATGTAGATCTTGAAAGGGGGTTGGTTTATGCTGGTGTATGTACTTTCCAAAGTT
 AGTAACTTACACTTAAGGTTATATATTTTGGCCAGGCGGGTGGCTCACGCCTGTAATC
 CCAGCACTGGGAGGCTGAGGCAGGCAGATCACGAGGTCAAGAGATGGAGACTATCCTGGC
 45 GAACATGGTGAAACCCCATCTCTACTAAAAACACAAAATTAGCCAGGCGTGGTGGTCTA
 CTA AAAATACAAAATTAGCCAGGCGTTGTAATCTGAGCTACTCAGGAGGCTGAGGCAGG

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ACAATTGCTTGAACCCAGAAGCGGAGTTGCAGTGAGCCGAGATCTTGCCACTGCACTG
CAGCCTGGGCGACAGAGTGAGACTCTGTCTAAAAAAAAAAAAAAAAAAAAAAGTCATC
AAACCAGATGACACAAATCCAATGGCATTTCACCTTTGGTTTGG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 271>:

GNMCJ96R gnm_271

CTGCATGACTCCGCCAAAATCTATCGCTTCCCGGTTTCGCAGAGCATTGATGAGCTGATG
GAAGCTTGTGCTGACGTGATCCGCAAAAACAATCTCACCAGCGCCTATATCCGTCCGCTG
ATCTTCGTGCGGTGATGTTGGCATGGGAGTAAACCCGCCAGCGGGATACTCAACCGACGTG
10 ATTATCGCTGCTTTCCCGTGGGGAGCGTATCTGGGCGCAGAAGCGCTGGAGCAGGGGATC
GATGCGATGGTTTCCCTCCTGGAACCGCGCAGACCTAAACACCATCCCGACGGCGGCAAAA
GCCGGTGGTAACTACCTCTCTTCCCTGCTGGTGGGTAGCGAACGCGCCGCCACGGTTATC
AGGAAGGTATCGCGCTGGATGTGAACGGTTATATCTCTGAAGGCGCAGGCGAAAACCTGT
TTGAAGTGAAAGATGGTGTGCTGTTCACCCCACCGTTCACCTCCTCCGCGCTGCCGGGTA
15 TTACCCGTGATGCCATCATCAAACTGGCGAAAGAGCTGGGAATTGAAGTACGTGAGCAGG
TGCTGTGCGCGCAATCCCTGTACCTGGCGGATGAAGTGTATTATGTCCGGTAAGGCGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 272>:

GNMCJ96F gnm_272

GTTGCCAGGCTGGCATAAGCACGCGAGGCAAAGGAGACCTGACGTTACGATTTTTCGGCG
TCCAGGCTTTGTACCTCGAGCGTCTGCGCTTCACGACGCGCCGCCAGTTCGGCATCGC
TTACCTGTAAGTGAATGCCACGGTTCGGGATGTCGATAGCGATCAGGTCACCATCTTCAA
TCAGGCCAATGCTGCCGCCGCTTCCCGCTTCCGGTGAGACGTGGCCGATGGAAAGACCAG
AGGTGCCACCAGAGAAACGACCGTCGGTGATCAGCGCACAGGCTTTGCCGAGACCCATTG
25 ATTTACAGGAAGCTGGTTGGGTAGAGCATTTCCCTGCATCCCCGACCGCCTTTCCGGCCCTT
CATAGCGAATTACTACCACATCTCCGGCGACAACCTTACCGCCGAGAATCGCTTCTACCG
CATCGTCCCTGCTTTTCGTACACTTTCGCCGGGGCCGGTGAATTTGAGGATGCTGTATCGA
CGCCTGCCGTTTTACGATGCAGCCGTTTTCCGCAAAGTTACCGTAGAGCACCGCCAAGC
CGCCGTCTTTGCTGTAGGCGTGTTCAGCGAGCGGATACAGCCATTGGCGCGATCGTCGT
30 CCAGCGTATCCCAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 273>:

gnm_273

GGGGGATGAAAACAGCTCCCGTCCGTCGGAATAGGGGCGGTGCTGTCCGTTTTGTGACA
35 AAAAACCGTTTTGGACGGAGAAACGCACCAAGGCTGGCCGGCTTCCTTCCGGAACACAG
TTTCAGCGTCACGCAAATCCACCCGTGTTGGCGCAAAACACCGCCCATCTGTCGTTACGC
CACCGCTTCGGCGACAACAGCGGCATCGGCTGCCTTGCCCGTGCCGCCGTATCGGGCGAT
GAAGGGGCGTGCGCATTTGTTGACCGGTTTTCCGGACGAAGTGAACATTGGAATGCAGT
CCGAACGCTCGAGTCGAAGGTTGTACCGGGCACACAAAGCCTATTGGCAGGCGGTAAAA
40 GACGGCAATATCGAAGCCGATACGCGGGCATTTCCGGATATCGTGGTTCTGGCAGCTTGG
CGGCAGGATGCGGAAGACTTCAACGAAGCCTATTGCCGCCATGTACGCCGCAAAATGAAC
ATACCGGAACATTTGGCATATTTGCCGGAGAGCCGATTATGATCAGGCAGAACGACTAC
GCGCTTGAAGTGTCAACGGCGACATCGGACTGATTATGGAAGATGTCGGACGGCAGGGC
AGCCTTCCCGCCTATTTTCCGATGCGGACGGATTTAAAAAGGTAGCGGTAAGCTGCCTG
45 CCCGAATTTGAACCCGATTCGCCATGACCGTCCACAAAAGCCAAGGTTCCGGAATACCGG
GAAGTATGGCTGCTGCCGCTTCCGCCGCACCTTCGGACGAAGGGGACGATGCATTGTCC

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5 GGATTGAGTAAGGAGCTGTTATATACCGCCATTACCGCGCGAGAGAGAAGTTCGTATTC
TTCGGCGGGGAAGAAGCCTTCCGGCAAGCTGCCGCCACCGTCAAAACGCGTCAGACGGCA
TTGGGCAGTATGCTCGAGCGGGTATTTTCACAAGAATAATCCGCCGAATGCCGCGCCGC
CGCCCTTATGCCTTTTTCAAACGGTATAGGAAAGTGGTTTTCCCGGGTTTCGCGCAAAAGC
10 AAGCGGATCGCTCGGATTTCGCGGCTTTTTTGTGCTTCGGCTTGGTTTTTCATCATATCGGC
AACACGCAAAACCCGCTGAGCAAATGCCTTATCCAGAAAATCGGATGGACGCAGGTGCAG
ATGTTTCGGCAAGATCGGAAATGATCAGGCGGATTTCTCCGTCGGGATTCAGATGTTTCGG
CGCATCCCGCAAAAACGCCAGCCAGCATCGCAGATTTCGGGGTCGTATAACGCGGATTCGAC
GGCGGAAGTCGGCTTGGCGGGAAGCCAGGGCGGATTGCAGACAATCAGATCGGCAAAACC
15 TTCGGGAAACAGATCGGTTTCCCGTATCTCAACCTGTTTTTCAAAGCCCAAACGGGCAAT
ATTGGCAGCGGGCGCAGGCGACGGCTTTCGGATTGGTATCCGTGCCGATGACGGAAGGAAT
GCCCTGTTTTCGCCAAAATGGCGGCAAGCACGCCGGAGCCTGTCCCGATATCGAATGCCGT
CTGAAAACCCGTTGACGGCGCATGGGCGAGCAGGTTCGAGGTATTCGCCGCGCAACGGCGA
GAATACGCCGAAGGAACGTGTATGCTGCCGCCAGCTGCGGAACGGCAACCCCTTCTT
20 ATGCCACTCTGTCGCGCACCCATAAAACCCAGCAGCAGATTGAGCGGCAGGAAAAACGGTTT
GCCGTCCGCCTCTCCGTACACGTCGAGCAAAGCGGAGCGTATATCGGGCGCGCTTTGTT
GTCCAACACAAAACCGGGGCGGATTTCAACGGCAAGCATATTCAGAATACGGCTCTGCTG
CGCTGCTTCATACGTTGGGCATGGAAGGGGCGGCGATATCCGCATCGGAACGGACGGC
GGCAGGTTTGCGAACCCCTCTTCTTCATTGCAGAAAGCACCTGTTTGGCATTGTGGAATC
25 GCCCTGCTAGACAGTTGCAATATTTTGATAGGCAGCCTTCAAATGCCGTCTGCACCGCT
TTCGCGGACATAATGCCAACCTTTGGGCGGCTTTTGCAGACTTTCGTTGCGCCATTTCGAA
CCCGTCATCGGGAAAAATAAAAGAAGACATGGGATACCTGCGTCATGTTTTGAAAAATAGG
GCGGCAGAACCGCAAAACCATACGGATGGTACAGCAAGGAGCGGCAACACAGAACAGTTTT
TTGTTCCCGCTTGTCTTTCCAAGCCCATGCCGTCTGAAGCCGGAATGTTTCAGACGGCA
30 TCGCATCAAACCTCCATAAATAAACCACATATGCTTGAAATAATACCTTCAACCCCAATGT
ACGCGAAAATCGGCAATCTGTACAGACAAAGAGAGTACCTATGACACAAAAGAAAAGCA
TTTTGAGGAATATGCCGCTTGGCAACCCCTTCTTTGCGGGATGTCGTCGTTTACCCGCA
TATGGTTCTGCCGTGTTTGTGCGCAGACCGAAATCCATCGCCGCACTGGAACGCCAT
TACCCGCGAGGACCGGTTTTCTGTTGGCGCAAACCGATGCGGCGGTAGAAGAACCGAT
35 TGCCGCCGACCTGTATCAGACCGGTACGGTTCGCACAAGTCTGCAAGTGTGAAACTACC
CGACGGCACGGTAAAAGTATTGGTTCGAAGGGCTGTATCGCGGACGTGTTCTGACCATTGA
AGACACGGGCGGTCTGTTGTTTCCCATATAGAGACGGTCGTGGAAGAAGACACGGGCGG
CAATACCGACCTCGAAGCCGTGCGCCGCACCCTGTTGGCGCAGTTTGAACAATACGCCAA
ACTCAATAAAAAATCCCCGCCGAATTCATCGGCAGCATCAACGGCATTGCCGAAAACAG
40 CCGGCTAACCGATACGGTCGCAGCGCATTTGCAGTTGAAACTGGCGCAACGCCAACAGAT
TTTGGAATTTCCGAAATCGGCAACGGATGGAATTCCTGCTGGCACAGCTGGAATCCGA
ACTCGAATTATGACGGCCGAAAAACGCATACGCGGACGCGTCAAACGCCAAATGGAAAA
ATCCCAGCGCAATATTATCTGAACGAACAGATTAAAGCGATACACAAAGAACTGGGCGA
AGAAGACGAAAACGGCGAACTGGATGCCTTGGAAGCAGATATCAAAAAGGCGGGTATGAC
45 CAAAGAAGCGGAAGAAAAATGCCTGTCCGAACTGAAAAAGCTCAAATGATGCCACCGAT
GTCTGCGGAATCCACCGTCGTACGCAACTACATCGACACTTTGCTCGAGCTGCCGTGGAA
GAAAAAATCCCGCGTCAGCAAAGACATCGCCAAAGCCGGACTGGTGCTGGATGCCGACCA
CTACGGCCTGAAAAAGTCAAAGAACGGATTTTGGAAATACCTCGCCGTCCAAAAACGTAT
50 GGACAAACTCAAAGGCCCGATTCTGTGCTGGTTCGGCCCTCCGGGCGTGGGCAAAACCTC
TTTGGGCGAATCCATCGCCAAAGCAACGGGGCGGAAATATGTCCGCATGGCTTTGGGCGG
CGTGCGCGACGAAAGCGAAATCAGGGGACACCGCCGCACCTATATCGGCTCTATGCCCGG
TAAGATTTTGCAGAATATGGCAAAGCCGGCGTAAAAACCCCTTGTTCCTGCTCGACGA
AATCGACAAATTGGGTAACGACTTCCGAGGCGATCCCGCCAGCGCGTTGCTCGAAGTGCT
55 CGATCCCGAACAAAAACAAGTTTGGCGATCATTATGCGGAAGTGGATTACGATTTGAG
TGATGTGATGTTTATCGCCACATCCAATAGTCTGAATATTCCGACTCCGTGCTCGACCG
TATGGAAATCATCCGTCTGTCCGCTATACCGAAGACGAAAAAATCAATATCGCGATGCA
GTACCTCGTACCGAAGCAAATGAAGCGCAACGGTGTAAAGAAGGGGAATTGGCAATCGA
AGAAAGCGCGGTGCGCGATATTATCCGTTATTACACCCGAGAGGCGGGCGTGCCTTCGCT
CGACCGCGAAATTGCCAAAATCTGCCGCAAGGTGGTGTATGCAGATTACCTTGGACGAAGA
60 TAAGAAGAGGTTGTCTGAAACCAAGAAAACAGCAAAGCCAAACCTAAAGCGGTTAAAGT
AAATGAGAAAAATCTGCACGACTATTGGGTGTGCGCGCTTCGATTACGGCGTTGCCGA
AAGCGAAAACCGTATCGGGCAGGTTACCGGTTTGGCGTGGACGGAAGTCGGCGCGAATT

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GCTGACCGTCGAAGCCGAGCATTGCCGGGTAAAGGCGTGATTTCAGTGCACCGGCCAGTT
 GGGCGATGTGATGAAGGAATCCGTGTCCGACGCGTGGTCGGTTGTCCGCTCCCGTGCGGA
 ATCAGTGGGTTTGGCTCCTGATTTTTACGAGAAAAAGACATCCACATCCACGTTCCTCGA
 AGGCGCGACGCCGAAAGACGGCCCTAGTGCGGGTATTGCGATGACCTTGGCGGCGGTATC
 5 TGCTTTACAAAATCCCGGTACGCGCCGATGTGGCGATGACGGGCGAAATTACCCTGCG
 CGGCGAAGTTTTGCCCATCGGCGGTTTGAAGGAAAACTGTTGGCCGCCTTGC GCGGCGG
 CATCAACACGTCCTGATTCCGAAAGACAACGTCAAAGACTTGAAGAAATCCCTGAAAA
 CGTGAAAACCGGCCCTGACCATCCATCCGGTCAAATGGATAGACGAGGTATTGGCTCTGGG
 TTTGGAAAGCCAGCCTGAGCCTTGGGCGAAGCTTCTGGTGCGGAAGCGGCGCGGAATC
 10 CGCTTCAAAACCAAAACCCCGCAGCAGGGCAACCAACATTGAAACGCAGGAAATGTGTT
 GTAAAAATGCGGTTTCGTCTGAAAGCCTGTCAAATAGGGTGATTCCGTATTTTTTGCTT
 GACACGGCAATTTCAAGATTGCTATAAAGCGAAAGTTGCTCAAGCAGTACAAACCCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 274>:

15 **gnm_274**

AAAATCCCGTCATTCCCGCGCAGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCG
 GGAATGACTGAAACTCAAAAACTGGATTCCCACTTTCGTGGGAATGACGGAATGTAGGT
 TCGTGGGAATGACGGGATGCAGGTTTCGTATGGATGGATTTCGTATTCCCGCGCAGGCG
 GGAATCTAGACATTCAATGCTAAGACAATTTATCGGGAATGACTGAAACTCAAAAACTG
 20 GATTCCCACTTTCGTGGGAATGACGAGTGGAAGTTACCCGAACTTAAACAAGCGAAAC
 CGAACGAAGTAGATTCCCACTTTCGTGGGAATGACgyGGwGCAGGyTTCyGTATGGATGG
 ATTCGTATTCCCGCGCAGCGAAATCTAGACATTCAATGCTAAGGCAATTTATCGGAAAT
 GACTGAAACTCAAAAACTGGATTCCCACTTTCGTGGGAATGACGCGATTAGAGTTTCAA
 AATTTATTCTAAATAGCTGAAACTCAACGCACTGGATTCCCGCTGCTCGGAATGACGAG
 25 TAGAAGTTACCCGAACTTAAACAAGCGAAACCGAACGAAGTGGATTCCCGCTTTCATG
 GGAATGACGGGATGCAGGTTCTAGGAATTACGTGGTGAGGTTTCGTACGGATGGATT
 CGTCATTCCCGCTCAGGCGGGAATCTAGACATTCAATGCTAAGGCAATTTATCGGAAATG
 ACTGAAACTCAAAAACTGGATTCCCACTTTCGTAGGAATGACGGC

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 275>:

GNMCK14F gnm_275

CCAAAGAAGTGACGGAGTTGATGTGCACAGGACTATGTAACCGGGCTTGCCGTTTAACC
 CATACAAAGAAGAAAGCCAAGGGCAGGAAGTTTCAGCAAAGCGCGACAAATTCGACAG
 GGCGCAAGTTGCCACATTGGGCGGAAAACCGTAGCAGAACCTAATGTACGATAATTGGGA
 35 AGAACGCGGGAAACCGTTTGAAGGAATCGGACGGGGGCGTGGTCGGATCGGCAAACTGAA
 GAAAACGGCAAGAGAGAAAAAGACCCGTAAACCGTTTGAATATAGACGGTTTACGGGTC
 TTTGTTTCGCGCAAAGCAAGGGCTAAGGCAGTCAGGCAGCAAATCCCGCAATGTATTAA
 ACAGACGCGTAGAAATGCCGGCTGCCTGGAGCGTTTTCTTTATTGAATATCATCCTAGC
 CGTATCAAGGCTGTATGAATATGTTTTTACCAATGAATATAATCGGGCTGGACATCTCA
 40 AAGGACACCATAGACGCAACATTGCATAAAACAAACGGAAGTATCCATTACATTAAATTT
 AAGAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 276>:

gnm_276

45 TTTACCTGCTCTTTTAATTGCAGCTTCATCAATTCGATGACACCTTGACGGTGTGCCTGC
 TCTGCGGCTTCTGTGGTATCAAACAGGCGCAGGGCGATGCGGCCGTCTTTTCTTTTGT

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5 AGGCCGAGATAGCCGGTGAGCTGTTGTTTGCCGCGTGCGAATTTGATGGATTGCGGCAGG
GTGCCGATGTCCCATGCGGTGACGTTGTCGCGCTCAAATTCCTGGGTGTTGTACGGAAG
GTAACGGCGGCAGCTTGACCGAGTTGTTGTTGCAATTCGTGCAGTTTTCGGCCGCCGCGCA
AGCTCTTGTCGCCCGCTCGTCGATAATGCGGAGGTTGAAATAGCAGTGTTCGGGCAGCCTG
AACGCGGCCCATTCGTCTTGGTTGATTGCTCGAATATGCGGATGTCGCCTGCGGTTTTG
GCGATGGCTTGGGCGAGTTGGGGCAGGATGGGGGCGTTGCGGTGCGGCATTGCTTTTCGT
TCCACCGTATTCAAATACCGATGAAGGGGCGATGATTGTCAACCACAATCAAGACAAAG
AATCCACCGTTACCATTACAGGCAATAAAGATATTGCTACAACCGGCAATAACAACAGCT
TGGATAGCAAAAAAGAAATTGCCTACAACGGTTGGTTTGGCG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 277>:

gnm_277

15 CATTAAAAATAAGTTTTTCTTAATTTTTCTTAGTGCTTGTTTTTATCTGCTTATTTGTT
GCAATGCCGTCTGAAGCAATGTGCGTTTCAGACGGCATTGGAATTCAGTTGGGCAGGG
TATCGGACGGTACGGTTTTCCGGCTCTTCTTCATCCGTAGGCGGCATTTCTATCAAATCGG
GCAAAACCAAGTTCGCCCAGTTCGGTCAGCGGCGGCAGTTCTTCCAAGCTGTTCAAACCCA
AATCGCTGAGGAACGTTGCCGTTGTGCGCCACAATGCGGGTTTTCCAATGTGTCCCGAT
GTCCGATGACTTCAATCCACCCCGATCCTGCAAGTCTGCATCACGTTCTGCGACACCGC
CAGGCCGCGTATGCCCTCGATGTGCGCCGCGCTTACGGGCTGCTGGTAGGCGATAATCGC
20 CAGTGTTCATCACGGCGCGGGAGTAGCGCGGCGCACGCTGTTCTTGCAAGGCTGCCAG
CCGCTCGAATGCCGTCTGAACAATCTGAAAACGCCAGCCCTCTTGCGTATGCACCAAGTTG
CAACGCCCTATCCTGCCAACGCGTTTTTCAACTGCGCCAACACATCAATCAGTTTGTCTTG
CGACAACGGCGGCACACACAGTTCGCGCATAGATTTTTCGGTGAGCGGTTGCGTTTGGGT
CAGCAGTGCGGCTTCAATCAGCGCGTCGGGAGAAATTTGTGCGTCATACGGGTATCCGT
25 GCTGAAACGGCATGGGTTTGATATGCCGTCTGAAATCGGTTGGAGTAGAGAGAAGCTGC
CTGAAAAATATTTTTTTCAGACGGCATTCTTTATGCTTCCGAAGCTTCTGCCCTTTACGCTC
TGCTTTTCTGGCTTCGCGTATGGCTTTGAGTTGCGCTTCTTTCTGACGGGCTTTTTTGAG
CCAAGTTTCCCATTTGGTTGCGCGTTTTTCGAGGGTGATTCTGCCGATTTTGCTTCACGGAA
GTCCGTGAGGATGTTTTTCGCGCGGTTTTTGGTAGTTGATCCGTCCGCGGCTGAGGACTGC
30 GCCGCTTTTTTGGCTATCCATTGAGCCAAACGTTTTTCGTCCCAAGTGGCTGCTGGGGTC
TTTGTGCGCTTGGTAGCGTTCTTGCAACATAGGGAGGTAGTGGCGGCGGAGGTAGTCTAA
AAGTTTCGAGGGCGACTTCTTCTTCGTCCAACGCGTTGCGTCCGACTGCGCCGCCGCGGCGC
AAGGTTGTAGCCGCCTTCTTCGACGATGATTTTCGGCCATAGCATTCCGGGGGTGTCGTA
GAGCCAGAAGTCATCGGCGAGGAAGAGGCGTTGTTGCGCTTTGGTGATGCCGGGTTCGTT
35 GCCGTTTTTGGCGGATTTTTTGCTATCATGCCGTTGATGAGGGTGGACTTGCCAAACGTT
GGGGATGCCGCAGATGAGGACGCGCAGGGGTTTATCTATGCCCTTGGCGGTGGGGAATCAT
GGCACGACAGGCTTGGGTAATTTTGCCGTGTGCGCTGTTTCGGAGGAATCGAGGGCGAT
GGCGCAGGTGTGCGGGCGGCTGTTATAGTGTTCGAGCCAGATTTTGGTGCGCTCGGGGTC
GGCAAGATCTTGTGTTGAGGATTTTAAAGTTTGGGTTTACCTTTGGAAAGCTGGGCAAG
40 CAGGGGGTTTTTCGCTGGAGGCGGGCATAACGCGCTCCAGCATTTCAATCACCATATCAAC
GCTTTTTGCACGCTCGGCGATGGCTTTTTTCGCCTTGTTTCATATGGCCGGGAAACCATTG
GATTGCCATGTCTGTTCTTTCTTTTCAATATTTGAAATGCCGTCTGAAACGGAGGACGGG
GTTTTAGACGGCATAATGTTTACGGAATTAGCGGTCTGACAGGTTTTTGCCTGTCTG
TGCCGTATCAGCAATTCATAACGCCCTTTCAACCTTCGGGCGAGTTTTTCGACAATATAG
45 ACCGAACGGTGCTGTCTCCCGTGCAACCGATGGCGACGGTAACGTAGCTCCTGCTTTCA
TCCTCAAACGCGGTAACCAATGCGTAACAAACCTTTTCGATGTCGTCAACCATTTCTGTC
ACAAAGCGGCTGTCCGTCCAAATAATCCCAAACGGGCTTGTCCATACCGGTGTAAGGCCTC
AACTCGGGATCGTAATACGGGTGGGGCAGGCTGCGCATATCGAACATAAAATCCGCGTTG
TTCGGCACACCGTATTTGAACCCGAAGGACTCCAAATCACCAGCAGCCCGGTACGTTTCG
50 ACCTTCAGCCACTGCCGACTGCATGGCGGAGCTGTTGGGCATTTCATCTTGGAAGTGTCTG
ATACAATAGGCGATTTCTTTAAGCGGGAACAGCCATTCCCGTTCTTTCTTTAAGCTTTCC
AACAAGGTTCATATCCTGATTGCTCAGAGGATGTCCTCGCCTGGTTTCGGAAAACCGGCGG
ACCAACACGCTTTCTTCGCCTCGACAAACAAACTTCAACCTGTGCCCCAGTCTGCGC

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AGAGAGGCAATCTGTTCCCGCGCCTGTCCGATGTCAATGCCGGAACGCACATCGACGCTG
ACCGCAATTCGGTTTTGTCGCGACGTTGATATGATACGACACCAGCGCGGGCAACATT
TCCAAAGGCAAATTTGCCACGCAGAAATAACCCGAATCTTCCATTTGGCGCAGTGCGACG
5 GACTTGCCCGAACCGGACAGGCGCTAATCAGGACGATCTTCATTGTGTGTTTCGTTTTTC
TTTAAGTTGCGTCTGATGGCGTTCCAAAAATTCGCGCGTACTGTCTTACCGCGCACTG
CAAAATGTAATTGCGTACCGCGCCTCAACCAAAACGGCAGGTTGCGTCCGACGGCGAC
GGGACGCGTAACCGAACGGACGTTGACGTTGAGGATGGATTTCGGTTTTCGGTGCGGATGCT
CAACCGGTCAAGCTGCTTCATATACTCGTCTCGCCTCGACTAAATTGATAATGAGTTG
10 CAGGATTTTTTTGGGCGGATGGAAGTTTCGCCGAAAATATGGCGGATATTGAGTATCCC
CAAGCCGCGCACTTCCAAAAAATCGCGCAGCATAGGCGAACAACGCCCTTCCAGCGTTTC
CGGGCCGATGCGGAACAGCTCGACCGCATCGTCGGCAATCAGGCTGTGGCCGCGCGAAAT
CAGTTCCAATGCCAATTCGCTCTTACCCAGGCGGGAATGCCCGGTAATCAGCAGCGCGAT
TTCAAACACATCGAGAAATACGCGGTGTTTGACGGACGATGCCGCAAGGTGCGTTGCGAG
GTAATCCGCAACACGTCATCAGATAGGGGCTTTTCGAGTTTGAAGTCAGCAGTTGGAAT
15 ATCGTTTTTATGACAATAGTCGCGCAGTCCCGGGGAAACCGGCAAGCCGTTTGCCACAAT
AACCAAAGACATAGAAATATCGAACAGGTGCGCAAACTGATAACCCGTTTCCCCGATTTC
GAGGCGGTTTCAGATATTCCGACTCTGCCAAACCGACCACTTGGATTGTTGGGATGAAT
GAAATTACAGGTGTCGACTAGGGCGAGGACGGGCTTGTCGCGCTCTACGCCGATACGGTT
GTCCGCACCCGAATTGCCGGCGGCCAAGCGAGTTGCAGTTTGATTGGTTGTCATCAA
20 CAGGCGGCGCAGGAGATACTGGGCATATTATTCTTCAGTCAGGATGGCAGGACTTCTT
CCGCAGAGGAAACCGTCATCAGCGATTCTCTGATGCTTTTTTGGGAAAACCTTGCCGGCCA
GTTTGATAAGACTTCCAAATGCTCGCGGTTGCGTTTTCCGGAACCAGCAAGATAAAAA
TCAGGGAAACCGGCTTGCCGTCCGTTGCGTCAAATCCGACGGGTTGCGCGTGCGGATGA
ACGCGCCCGTCGCTGCTTACGCGCGGCATGACGCGCGTGCGGGATGGCAACGCCCTGCC
25 CCAAACCGGTGCAACCGAGTTTTTACGGGCAAAAAGACATTCGAAAACATCAGCATGGG
ACAAATGAGGATTCGCGTTCCAAAAGCAGGCGCTGCTTCTCAAACAGCCTTTTTTTACTGC
CTACCTCCATATCCAAAACAATATGGGACAAAGGCAAAATTTTCGCCGATAAGGCTCATAA
GCTTCTCTTTTCAGACATCGCAAAACAGAAAGATTGTACCGACTGCCGGGGCAAAATCTCA
ATCCCGCATACGGTACGGGCTGACATAACACAGCGTTTTTAAAACATATTTTAACGCTTT
30 TCGGCACAGATAGAAATGCCGTCCAAAGCAGTTTACGGCTCTTCAGACGGCATTGCCCTG
CCTTATTTTCGGCAAAAACGATATGGGCAAAAATGGCGGTAAACCACACCCAACCAATTCTG
TTGTTTGCCAAAAACGTTTTCAAACAGATTTGCCGGACGCGGCTTTTGATGGCGGCATAT
TGGCGGTATTGCAGCAGCAGGACGATGGGGATTGCCGTCCAATATGCCCATGCCGCACCG
ATAACCGCACCAATACTGCCATCAGCAGGGTAAAGCCTCCGTGACACAGCATAACGGCG
35 CGATGTCGTAAACGCCCAACGTGACGGCGGAGGTTTTGATGCCGATTTTCAAATCGTCT
TCTTTGTCCGCCATTGCATAAACCGTGTACATACGCCAGAGTCCATAACACATTGGCGGCA
AAGAGTATCCACGCTTGAGGCGGCACGTTTCCGGCAACGGCGGCAACGCCATCGGGATA
CCGAAGGAAAAGGCAAGCCCCGAGATAGAGTTGGGGAATCGGAAAAAACGTTTGGTAAAC
GGGTAAGTCAGCGCAAGAAACAGCGCGGGCAGGCTCATCAGCCAAGTCAGATGATTACAGC
40 GGAATCAGGCACAATGCGGCAAGCAGGCACAAAAATGCCGTGACGACGACGCTTCTTTT
TTCTTGACCCTGCCCTGTGCGAACGGACGGTTTTTTGTACGCTCGACAGCACCCTCAAAA
TCGCGGTGCGCAAAAGTCGTTGATGACGACGCCGGCACTGCGCATTAATAACGTTGCCGATT
GTAAACGCCGCCAATACCGCCAAATCGGGAATGCCGTCTGAAGCCAGCCACAATGCCCAG
TAGGTCGGCCACAGTAAAGCAGCGTCCCAATGGGCTTGTCGCCCGCATCAGGCGCAGG
45 TACACATCCAAACGGTCGGACAGGCGTAAAAATAAGGGGATTTAGGATTCATATTGCCG
CGCAGCTTGAAAAAACGGTATTTTATCCGATAAAACGTTTCAGTTTCGGGCAGAAAATACT
CGGTGACGACGATTTCTCGCGGTGACGGGAAAACCGAGAACGCCGCGCGGCAAGTACC
GTCCGATCCTTCGCGGCAACGGCAAACTCAAACGCCGAACGCGCCCCCTTCAAATCGG
CTTGAAACAGCAGCTCGGCCAAAGGACGCGTCCCGCAGTCCAAATGTTTTGCCAAAACG
50 CCGAACCAGATACGGCATTCGCTCCTTGCTCAACAACAGGGATACGGTCCAGCTTCAACA
AACTTCGCGCACCAAGCTCCCTCCGATTCGCTCTCAATTCGCCCAGTTTCAGCAGTT
CCACCGAAAATGTATGCGCAAGGCGCGCAATGCGGCGGTGACGACCGGGTGTGCAGCA
GCCGCACCATCGGCAGGCTGATGCCGTCTGAAATGGCGGCGGGCAAGTCGGGCAGCCATT
TCCCAAATAGGTGTTCCATATTTTCCCAATCTTTATACCGCTCTGTTTTTGCCAACTC
55 TCCCATTCGCTTCGGAAAAATCGGTTTCAGACGGCATTTCAGTAGCTCAGGCTGTC
TTGGGCGATGTGTGCGTCGCGGCTGTGCTGGATGTGGTTGAACACGAGGCTGTGCAAGCG
AATGCCGTATTGTTTGGCGCGGCGAAACTGAGTAAAGTGTGGTTGATACTGCCGAGCCG

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TCCGCTGGTAACGAGGATGACGGGATAGCCTTGCTGACGGATATAATCAATGGTTAACAG
GTTTTCCGTCAGCGGAACCATCAATCCGCCCGCGCCTTCGACCAAAACGACTTCGTA CTG
CGCCGCCAATTCTTGTGTGGCGGTGCGGATTTTGTCCAAGTCCAAAGCCCTGCCATCCAG
5 TTTGTCGGCTTCTGCATCGGTATGCCATAATTTGCGGTGGACGGCGATGTCGTGCGC
AATGTTTTGGCAACCGGTTTGACAGGGCTTTGCGTAATCAGCCTTTTGCCCTGCTGCAA
CAATTGTTTTGCCAACACGCCGCTGGCGACGGTTTTGCGGATGTCCGTGTCTATGCCGCT
GACGAAGTAAACGCCTTTTCATTTGCTGTCTTCAAGATTTGACAGGTTTTGTCGGCA
AGTTTGGTCAAAACGCCGCTCTGAAATGATATAGGGCGGCATCAGATACACCAGCCTGCCG
10 AACGGGCGCACCCAAATGCCCTGCGCCACGCAGTCCGCTTGAAAACGCGCCATATCCACG
CCTTTTTCCAGCTCGATACCCCGATGGCACCTAAAACGCGCACGTCTTTCACGCCGCGA
ATGTCACGCGGCTTTTCAAGATGCTTCAATGCGGCGGATATTTGCC
TGCCAGTCTTGAGACAAAAGCAGTTTGACCGAAGCGCAGGCAACGGCACACGCCAGCGGG
TTTGCCATAAACGTCGGGCGGTGCATAAACACGCCCGCTTCGCCGCGCGAAATCGTTTCG
15 GTAACTTTTGCGAAGTGATTGCTGCCCGCAGCGTCATATAGCCGCGCTCAAACCTTG
CCAATACACATAATATCCGGCACGACCTCCGCGTGTTCGAGGCAACATCTTGCCCGTG
CGCCCGAATCCAGTGGCGATTTTCGTCAAAAATCAGCATGATATCAAATTCGTGCGACAAA
TCGTGCAATCCGCGAAGATACTGCGGATGATAAAAATACATGCCGCCGCGGCCCTGCACG
ACCGGCTCTAAAATAAAGGCGGCAATATCCGCATGATGCACTTCAAATAAGGCGCGGACA
20 GGCTGCAATCCGCCCGTCCCATTTCATCGTCGAAACGGCTTTTCGATTATCGACAAAA
TAACGCTGCGGCAACGCGCTGCCGAAAATATGGTGCATCCCGCTTTCGGATCGCAGACG
GACATCGCGTTCCAAGTATCGCCGTGATACCCGCGGCGCACCGTCGCGATATTCTGCTTC
GCCGTCAAACCCCGCGCTGCTGGTATTGCACTGCCATCTTCAGCGCAACTTCCACCGAA
ATCGAACCCGAATCCGCATAAAAAATACGGTTTCAGCCCTGCGGCAAAATCCCGACCAAC
25 AACTTGCCAGTCCACCGCTGGCTCGTCAAAACCGCAACATCACGTGCGCCATT
TGTTTCATCTGCGTCTCAACCGCTGATTCAAACAGGATGATTGTAGCCGTGTATCGCA
CACCACCAGGAGGACATCCCGTCAATCAGCCGCGTGCCGTCCGCCAATTCGATAAACACC
CCTTCTGCACGTTTGACAGGATAAACGGGCGAGCGGATCGGTGATGGAAGTATAGGGATGA
AGCAGATGGGTACGGTCGAAATCAAGCAATGATGATATGTGTTGATGTTTCAGACGGCATA
30 AGTTTCTCTCTTTCTTCTTACTGTATTCAAACGCAAAACGCGTATTCTACTCCGACAGA
CCGTTTCCCACCTCTCCATCCGTTTCGGGCGCAAAACCGCGAAACAAATCGTCCGCAG
TATAAGCGCACACCGTTTCGCATCCCCAAGCCCGATTGGAATCAGACGGCCCAACGCCC
AATACCGTTTTCAGCAGCCTCCGCCAACGCTTCAATCAGTCATAGATATAGTGGATTAA
CAAAAATCAGGACAAGGCAACGAAGCCGACAGACGTACAAATAGTACGGCAAGGCGAGGT
35 AACGCCGTACTGGTTAAATTTAAATCCACTATAAAACGGCAATCCATACGATACAGATCA
TAGCAACAGCCATCGCAACAGCGTTAGCAAAATCAGGGGACTCCGACATAGGCGCATAGC
ACCTACCGATGCACGGCTCCTCATTGCGCTCTATGAATACCATACCCATCACAAAATCCA
CCGCCAAAACAGGCACGGCTTCTTATACTTATGATAGATTTCCACCATCCTGTCCATA
TATACCAAACATTCATACCGTATATCCCGCAGGCAACAAATTCGATTGAAGGTTACAGC
40 CCTATTTTATAGTGGATTAAACAAAATCAGGACAAGGCAACGAAGCCGACAGTACAA
ATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCT
AAGGCGAGGTAACGCCGTACTGGTTTTGTTAATCTACTATATTTTCAAACCGGAAAAAT
GCCGTCTGAACCTTCAGACGGCATTCATTTCATATTTATTCGTCTTTTGTGTTTCGATG
45 GCGTTTCGGGAACGATTGCCGCGTAAGGCTCTTCAACCGTATATTCTCCCTCGATAATA
TCGTATCGCGGAAAAGCCCTCTTTTCTGCCCGATTGGTTTCATGTTGAAAAAATTTTCC
GCACCTCTGCTGCAACACTGCCCTCCCTTAAACGGCAGCAGCAGCAATACGCCAAC
ACCGAGGATACGAATCCCGGACTCATCAGACACACAGCCGCCACCGTATAACGGATAGGC
CACAACATCTGATAAACGGATACCTCCCGCGCTTCTCATTGCCGCGCCCGCCAATAAA
AGACGGGACAGCCCCGTATGCTGAGCATCAGCACGCCGGCGGCAAAACCTGCCGCCATC
50 AAAAACAACGTCCAGCCGCGCCCGAGCCAATCGGCAACCCACACAATCGACATAATCTCC
AAAAACAGCAGCACCAAAAAACCGATACCGAAAAATCTCATTGACCGTCATCTTATATT
TAAGTAAACAGCAAAACCGCCGAACAGGACTCCAAGCAGCTGCCTGTAAATGATTACAA
AACCATGTGCTTCAAGCCGAACAATGTAAATCTCGCAATATAGTGGATTAAACAAAAAC
CAGTACAGCGTTGCCTCGCCTTAGCTCAAAGAGATCAATTCTCTAAGGTGCTGAAGCACC
55 AAGTGAATCGGTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 278>:

gnm_278

```
5  GATGATGATCTTCCTATAGAAATAAGCCTGCCAAACTGGGTTCCGGGCAGCTATCTGATT
   CGGGATTTTTCCCGCCACATCACTTCTATCCATGCATCCTGTAACGGCACGTCCATGCCG
   CTCGAACAAATTGCCAAAACCGCTGGCATGCCGCCGCCGTACGCGGCGAGTGGCAAATC
   CGCTACACCGTATATGCATTTCGATTGTGCGTTTCGAGGTTCTTTCTGACGACAGAACGC
   GGTTTTTTTACCGGATCGTGCCGTTTTTTAAAAGTCGAAGGAACGGAACGCTGCCGCAC
   CGCTTGGAAATTGACGGGTATTCCGTCCGAATGGCGTATTGCCACAACGCTGCCGGAACA
10  GGGAGGTTTGTCTTTCAGGCGGCATCTTATGCCGAATTGATTGACCGACCTGTGAGATG
   GGCTTGATTGAATTTTAGATTTTGGAGCGGCAGGCATTCCGCACACAATTGCCTTAAGC
   GGCATATATCCCGATTTTCGACCGCAACAGGCTGGTTTCGGATATCAAAAAAATCTGCGAA
   ACAGAACTGGCGGTGTTTTCTCCCTGCCCGTTTCAAAAATATTTGTTCTGCTCCAC
   GTCGGCGACCATATTTACGGCGGTTTGAACACACCGACAGCACCGCCCTGCTCGCCGAC
15  CGCCACAGCCTTCCGCGTACGGTATGACCGATGCCGACGATACCTACACCATTTGCTC
   GGACTTTTCTCCCAAGATATTTTCACGCGTGGAACTCAAATCCATCAAACTGCCGCG
   TTCGTCCCTTATGACCTCGACAAAGAAAATATACCGAACAATATGGGCATTGGAAGGT
   ATTACATCTATTACGACGATTTGTTTTTGGCAGCAGCCGACCATCTCGCCGAATCT
   TATTTAAACCTGCTGGCACAAGGCATTACGCGCGTACAACAAACCCGCGCCGTTTGAGG
20  CAGACCTTGGCGGAATCGAGTTTACCGCGTGGAAACAAATTTACAAACCGGATGAAAC
   AGCCCCAACGCCATCGTCAGCTACTACCAGAAAGGCGCGCTTGCCGCATTGTGCCTTGAT
   CTGATAATACGAACCGAAGCAACGGCAGACATTCTCTGATACGTTAATGGACAAACTC
   TATCGGGAGTGGAGGGACACACACTCGGGTATTCCGGAAAAACACTGGCAAATCCGCTGT
   CAGGAAATTACCGGCTTGGATTGGAAGATTTTTTCAAAAAGCGTTATACAGTACCGAA
25  GATTTGCCGCTTGCCGAATGCCTGGCAACCGCAGGCGTGGGACTGACCTTCTGCCGCTT
   CCCCAGAACACGGCGGGCGGATACGCAGAACACATCTGCCCGTCCCGTCGGCAGGCGAT
   TTTGGCGCAGTTTTCAACAAAACACCGACCATATCGTCTGACCCATGTCTTCAACGGC
   GGCAGCGCGGAATCTGCCGCACTGTGCCCGCAAGACAAAATCATTGCTTTAGACGGTTAT
   GCCTGCACCGACTTTACCGCAATGGGCGGATACACGTCATGCAAAAATCAATATC
30  CATCTCTTCCGTGCCGCAATTTGCGTCAAACCGTCTTGACGGTTACGGCAGCGGCAGCG
   GATACTGCCATCCTACATATCACAGACCGGAACCTGTTGGACAACTGGTTGTTTCGGTTAA
   ACTTTTCAGACGGCATTGCACACAAAATGCCGTCTGAAAAACAACCGCAAAGTAAAGGAAA
   CAAAATGGCCATTCTGAACTTGACGAACACCTCTATATTTCTCCGCAACTGACCAAAGC
   CGATGCCGAACAAATCGCGCAACTGGGCATCAAAACCGTCATCTGCAACCGCCCCGACCG
35  CGAAGAAGAAATCGCAACCCGACTTCGCCCAATCAAACAGTGGCTGGAACAAGCAGGCGT
   TACTGGATTCCATCACCAACCCGTTACCGCACGCGACATCCAAAACACGATGTCGAAAC
   CTTCCGCCAACTCATCGGACAAGCCGAATATCCCGTCTTGCTATTGCCGGACCGGTAC
   GCGCTGCTCCCTCTGTGGGGCTTCCGCCGGCGGCGAGAAGGTATGCCGGTTGACGAAAT
   CATCCGCCCGGCCCAAGCGGCAGGCGTAAATTTGGAAAACCTCAGAGAGCGGCTGGACAA
40  CGCCCGCTCTGATTACAAGCCGAAACGTTTAAACCACACCTTCAAGCGGCATTCCACCG
   CAACTTGAAAAAGAGGACGGCAAACCTTACTGCCGTCTCTGTCTTCTCCGTTTTTACA
   GTGGGAGACCTTTGCAAAAATAGTCTGTTAACGAAATTTGACGCATAAAAATGCGCCAAA
   AAATTTTCAATTGCCTAAAACCTTCCTAATATTGAGCAAAAAGTAGGAAAAATCAGAAAA
   GTTTTGCATTTTGAAAAATGAGATTGAGCATAAAATTTTAGTAACCTATGTTATTGCAAAAG
45  GTCTCAGTGGGTATAGCGGATTAACAAAACCACTACGGCGTTGCCTCGCCTTAACCTCAA
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   GTCTACGGCTTCGTTGCCTTGCTCTGATTTTGTGTAATCCACTATAAAAAATTAGAAATGC
   ACATTTTCATTATTCTCGCGCAGGACGAGTCCAGACTTACCCATTTTCAGTAATGTTTGA
   AAATAAAAGAAAAATCAGATGTTTGTATTCCCGCCTGCGCAGAAATGGAGACGGTGCTCT
50  TCGTCTCATTTTTGTTTTAATCAACTATATAGCTGATTAAACATAAGAAATGCCGCTC
   TGAAGAGCTTTTCAGACGCGATTTCGTTCAAGCGTCGAACCTTATTGCGCCTTGGTTTCGGT
   TACAAAACCGATTTTGGTGATTCTGCTGACGGCGGCTTCTAAAGCTTTGTTTACATA
   ATCGTATTCCACCGCCTTGCTGCGCAATCGCCACAATCACGTTTTTCATTCTGCTCCTT
   GGCGGCTTTTCAGACGGCTTTCACCTTCCCCGATTTTCACCTTGCTTGAGAAATCCCCGC
```

5 GACATAATAGCCGCCGTTTCGCATCAATCGTCAGGCGCAGGGGGTCTTTAGGCTGTTTGTCTGCTTGTGTTGTCTGCTCGGACGCGGTGCGCAGTTCCAAAGGGATGGAATGCGTCAGCACCGGCATAGTAATCATAAACACAATCAGCAACACCAGCATCACGTCCACCAACGGCGTAACGTTGATGTCGGACATCGGAGAATCGTCGCCGGAATTCATCGAACCAATGCCATAATCAGCTATCCTTTTGTATTAAGCAGGCGGACGTGCAAATCGTGCGCCATCGCATCCAAATCCTGGGTCAGTATTTTGTGCCGCGATTGAGGAAGTTGTATGCCAACACCGCCGGAATCGCCACGAAACAAACCCGCCGCCGTGCGCACCAAGTGCCTCGCCAATCGGGCCGGCAACCGCCGCAATACTCATCTGCCCGCTTTGCCGATATTGATCAGGGCGTGGTAAATCCCCCAAACCGTGCCGAACAGCCCATAAACGGCGCGGTGCGCCGATGGAGGCAAGCGCGGTATCCCGTAATCA10AACCGGCGCATAATCTGCGCCATACTGTTGCGGATTTGAATGACCAAATACTCGTTCAACGGCAAAGCCTGCGCCAGTTTCGGACGCTTCGTTTCGGCGGTAGTTGCGGTAAGACTGCAATGCCTCTTGCGCCAGTTTGGACAAAGCGCATCGACGGCGCGCACTTTTTCGACCGCGTCGTTCAGCGCAAAAGTATCGCGCATATGCCGTTTGACGGCGGCATTCCCTTTGCGCGCCGATACAGCTTGATGCAGCGCAAGACAACCAAACACCAGTTACGATACTCATCAACAGCATC15AACACAAACACACCAATCAGGACGGGATCGCCGATTCAAACACTAATTTCAAATTCATAATGATTCCAACACTGAAAAAACCAATCAAACATCCAAGCTGCCGCAAAACCGCTGCGGCAAACCGCTAATTTCAATTTCAAACCTTGACGGGGACTTTAAACTCCGTCCAGGCATTGGCTTGAAATGCCCGTTTTGCGCGCCTTGCGTGCCGCATTGTCCAACCGGGAAAAACCACTGCTTTCACGATTTTAAACGGACTCAACATGACCGCCCGGAGAAACCAAACGCTCAAAACAACCGTACCCTGCTCGTCATTCTCCATAGAAAGCGTGGGATAAGCCGGGCGCGGAATGCTGCCGTGGCGCGTAAAGGATTGCCTTTGCTGCTGCCGGCTCCTTCCCGTGTTCGCCTTTGACACCGCCGCTACCTTTACCGCTGCCTTCTCCGCGCCCGTTCCGTCTCCTTTGGTACCAGTTCCTTATCTTCCCATTTGCCCTGCTCGCTGTCTGCTTTGGCAGAAGCATTGCCGGGATGTT20CGGCAGGTTTTTCAGACGGCTTCTCGACCGGTTTTTCCGCCGGTTTTCGGGACAGGCTTCGCTTCCGGCTTAGGCTCTGGTTTTCGGTTTTTCTTCGGGTTTCGGCTTTTCTCAGGTTTTCGGCTTTCCTTAGGCTGCTGAATATCCGCATCCGCCTTTTTCGTAACCACCGGCTTCAAAACCGGCTTGGGCGGCTCGACAGGTTTGGGCGGCTCGGGCAGGGTTGCGGTTGGGCGCAGCAGGCGCGCTGCACCTTCGGGGCGCGCTCCCTCCGCCAAATCGCCAAATCGACAAATTCAATAACATTGCCTGACTCTATCACGGGCAGCTTGTGCGCTGCCAGAGCAATGCCA30CCATTGCCAAATGCACGAGTGCACGGAACACGACTGCGGGGGTTAAATTCGTTCTTTATCCATAATTCGGGCATAATAATAGCAGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 279>:

gnm_279

35 ACGACCAAGGTACGCGCAATCTGGTGGCGGCAAGTATCGCCATCGATATGGTCAAAGTCCTGTCGCCGGAAGGCGTGAAAGATTTCCACTTCTATACGCTTAACCGCAGCGAGCTGACTTACGCCATTTGCCATATTTTAGGCGTGCGCCCTTAAAGCCGTATCAAACAGTTTCAGACGCATCTAAGGTGTCTAAAAAGCAAAACACCGCCCCATCCGAGCCATTCTGATTTACAATACCGGCCGATTTCGGATTGAACCGGTCTTACAAAATCCAACCTGGAGAGTTCAACATGACAAC40ATTACATTTCTCAGGCTTCCCGCGTGTGCGCGCCTTCCGCGAATTGAAATTCGCACAAGAATAAATACTGGCGCAAAGAAATCAGCGAGCAAGAATTGCTGGCTGTTGCTAAAGACTTGCGCGAGAAAACTGGAAACACCAGGTGCTGCCAACGCCGATTTGTTGCCGTAGGCGATTTCACTTTCTACGACCACATCCTCGACCTGCAAGTCGCCACCGGCGCGATTCCCGCCCGCTTCGGCTTCGACAGCCAAAACCTGTCTTTGGAACAATTCTTCCAACCTGGCGCGCGGTAACAA45AGACCAATTGCTATCGAAATGACCAATGGTTTCGACACCAACTACCACTACTTGGTGCCTGAATTCACGCCGATACCGAATTCAAAGCCAATGCCAAACACTATGTTCAACAACCTGCAAGAAGCCCAAGCCCTCGGTCTGAAAGCCAAACCGACCGTTGTAGGTCCGTTGACTTTCTGTGGGTGGGTAAAGAAAAAGGCGCCGTGCAATTCGACCGTCTGAGCCTGTTGCCTAAACTGTTGCCCTGTTTACGTTGAAATCCTGACTGCTTTGGTTGAAGCCGGTGCCGAGTGGATTCA50AATCGACGAGCCTTGCTTGGCTGTCGATTGCTTAAAGAAATGGGTGGAAGCCTACAAAGACGTTTACGCTACTTTGAGCAAAGTAAGTGCCAAAATCCTGTTGAGCACTTACTTCGGTTCGTTGCCGAACACGCCGCATTGTTGAAAGCCCTGCCTGTTGACGGTCTGCACATCGACTTGGTACGCGCCCCGAGCAACTGGACGCGTTCGCCGACTACGACAAAGTCTGTCTGCCGG

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5 CGAAGGCCGTGATTCTGTTGCCGAAGAACTCGCCGCCAGCCAAGCTGCTGCCGACTCCCG
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10 CCAGGCACGCTCAGCCTTCAAAAAAGCGAACTGTCTGCCGCCGATTACGAAGCCGCGAT
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15 GTCTTTTCGTCGCAACGACATTCCTCGCTCTACCGTGTGCAACAAATCGCACTGGCTCT
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20 GATACCATTCCGAGACTTCACGTTCCGACATGGAACCTTTGACCGCGTTTCGGCGAATTCCA
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25 ATGAATAAATACCGTCTGAAAGCCTTTCAGACGGTATTTTGTCTGATTGCGGCGCAAG
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CTATAAATTATACAAATCATTTTGCATGGGGTAGAATGCCAGCGATTACAAATTATTTTC
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30 CCTTCCGTAGTATTCCGCACCCGCGTCGGCGACACTTGGAAGATGTGTCTACCGATGAT
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TCTTCTTCACACCTGCCGCGTTACAACGAATTGTTCCGGCGGTTCAAAGAAAACGGCGTT
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35 GGTATGCTGGTGGTAAAGAAGACTTGGGCTTCGGTAACGCTCTTGGCGTTACTCCATG
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45 CCGATATGTTCTGTGTCGCAATGTTTCAGACGAAAACGGAAGGACAAAGATTATGAAAA
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50 GTGAAGAGGTATGCAGCGCGTTAAATCCGAGCGTGACCGTTTTGTCGGCTTTGTCGTTG
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CCGGTTCCGCTCCGTCATCTGCCGCAATGGCAGTCTTTGGGCAATCGTTTGATTATCA
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GTTTGGGCGGAATCATCGGCGGCATTTCGACCCCGTCGTTTCAGACGAGGCGAACGCCG
TGTTCCGCGAAGAATTGAAACTGCATCTGGATGCTAAAACCGAGGTCAAACCTCGATGCAG

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5 TTCCGCATATCTTCATCGCAGGCGATGCGTCCAACCAACTGCCTCTGCTGCATGAAGCTG
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10 CCGAAAAAGCCACCGGCCGCTTTATCGGCGCGGAAATCGTAGGCCCTGCCGCCGAACATT
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TGCCGTTCTACCATCCCGTTATCGAGGAAGGTCTGCGTACCGCGTTGCGCGATGCCGATG
CGAAATTGAAGCCTGACCGATATGGCAAAACAATGCCGTCTGAAATTTTTTCAGACGGC
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TAAAAATCTTTCTATTTAATCTGCTGTTTCCACGCGTGTGTTGTCAAAATCTATCAGTTTG
15 TTTTAAATACACTGTTTCAAAATGGGATAAAACAGGTAAATTAACGTTTATGTAACCCA
GTGTAGCAATGGGTTTACGGTTTTGAGTCGATATATACTACAGAGGAATTGACTATGT
CTGCCAAACCGCTCCTGTTTATCTGGATTGCGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 280>:

20 **gnm_280**

GCATACACGCCTTAACCTTAATTTGCAAAATGACCGTGCTAAACAAATGCCGTCTGAAAG
TGGAGATTGGTTTTTTCAGACGGCATCGCCCGAGAGATGTCGAAATGGACTTTATCCCAT
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45 GACCTACCGGAGCTGGCACATCGAAGGCGGACAGGCATTGCGGTTTCTTTGAAACCGC
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50 ACAGGAAGAGGAAGCGGCATTGTGGGCGGAAATGCGGCAGGATGCCGCCGAACAGATTGT
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5 TGCTGCCCAAACCTGGAGAAAACCCAGCTCCAGTCCAAATGGTTTGCCGATTGGCGGCAA
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50 GCTGCTCATGTGCTTCTCCGAAGCCCGTTAAATGGAATCAATATACATCTGTATGG
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GTAGCCGATTGCGCCCCAGCCGAATCCGGTCAGGAAACGTTTCGCGGGCAAACCTCGGTCAG
CGTCCACAGGATGGGCAGTACCAAACCGATTTTTATGCCCCGAGGCAGGGTAAATTTTTT
40 CCACAGCCAGAAACACAGTGCCGGATAAAGGGCAAGGTAGGCGGGGAGTAGGAAGGTCAG
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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 281>:

gnm_281

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 40 TATAGAGAAATAGCTTTCCAGATTTTAAGTGGGAAATATAATTTCTATTGACATTTTTCTGC
 TTCACGTAAGAATCGTTTTCTGTTTTCAATTTTAATTTTCGAAGAAATTATGAACACAC
 GCATCATCGTTTCGGCTGCGTTGCTTGGCTTGGCATTAGCAGTTGCGGCTCAATCAATAA
 TGTAACCGTTTTCCGACTAGAACTTCAGGAACGTGCCGCGTTTGCTTTGGGCGTCAGCCC
 AAATGCCGTAAAAATCAGCAACCGCAACAATGAAGGCATACGCATCAACTTTACCGCAAC
 45 TGTGGGTAAGCGCGTGAGCCAATGCTATGTTACCAGTGTAATCAGCACAATCGGCGTTAC
 CACTTCCGATGCAATTTGTTTGGGAGGCGGAACGCACAAAGGCAAAAGTCAATGCAATGC
 TTTGCTTAAAGCGGCAGGAGTTGCTAATCCTTTATTTCGAAAAGGTCGTCTGAAAATAT
 TTTAGACGACCTTTTATTTATTGAGCAAATTCGCCAACTGCCGACAATCCGACCGATA
 AACTGCTACAATTTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 282>:

GNMCL71F gnm_282

CCGAAGTTGGATCGCTCTAGAGGATCCCCTGCCGATGTAGCGCGCTCCTGGTACGGGCAT

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AATGCCCTGGGCTTCTTCTGACTGCCGGCTTCTTGGGTATGATGTACTATTTTCGTACCC
AAACAAGCAGCCCCCGCTTTACTCCTACCGCCTGTCCGTGCTTCACTTCTGGGCGTTG
ATTTTACCTATATGTGGGCGGGTCCGCACCATCTTCACTACACTGCGCTGCCTGACTGG
ACGCAATCTTTGGGTATGGTTCTGTCTTTGATTCTGTTTCGCACCCCTCTTGGGCGGTATG
5 ATTAACGGCATCATGACCTTGTCCGGCGCGTGGGACAACTGCGTACAGACCCGATTCTT
AAAATCCCGGATGGAACCCCTGGTCTTCTACGGAATGTCTACCTTTGAAGGCCGATGAT
GTCGATTAAACGGTCAATGCATTGAGCCACTATACGGACTGGACCGTCGCGCACGTTCA
TGCGGGTGCGTTGGGCTGGGTAGGCTTTGTAACCATCGGTTCCGTCTATTACATGATTCC
CGTCTGTTCCGCAAGAACAGATGCACAGCACCAAGC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 283>:

gnm_283

TTGAACAGGTTAcGAATTTGTTGTTGAATTTGTCCACGCGGCCGGTGGTATCAACGATTT
TTTGGGTGCCGTTATAGAACGGGTGGCACAGGGAGCAAACCTCGATATTGAAGTTTCTT
15 TTTCCATCGCGGATTTGGTTGCGAATTTGTTGCCGCAAGAGCAGGTACGTTGACTTCGT
GGTAGTTCGGGTGAATACCTTGTTCATTTGATTTCTTTCAAAAAGCGGGCATAGGGG
ATGTACCTATGTACAGACAAGTCCGACATTCTCGCTATTTTCTGTTGTTACGTCAAGAG
TATATTGATATAAATGTATAGTGGATTAACAAAACAGTACAGCGTTGCCTCGCCTTGC
CGTACTATCTGTACTGTCTGCGGCTTCGTTGCCTTGTCTAATTTTGTAAATCCACTAT
20 AAAAAGTTCTTTGAGGGAGGTTTGTATGGGATCAAAATCTTTTCTGCTGCTGCGTTT
TGCCGGTTCCGGGTGCGCGCATATGCGCGGCATCGGCATCGTCGCGAGACGGGT
GCGCGTTTTTTTGGCGCGGCGGTTTCTCCGCATATCGGACGCGGGTCAATATCGAACG
CGGGGCGTATGTGTTTCCGGATACGGTTTTGGGCGACGGCTCGGGCATCGGGGCAAACG
TGAAATCTGCCGTGGGCTGGTGGTGGGCAAAAATGTATGATGGAGCCGGAATGTCTGTT
25 TTATTCAAATAACCACAAGTTTGACCGTTCAAAAACGCTTTGAGGGGTACACGGAAATC
CGTCCGATTACGTTGGAGGACGATGTCTGGCCGGGCGACAGGGTGATTGTAATGGCGGGC
GTAACCGTCGGACGCGGTTCCGTCGTGGGCGCA₉CGCGGTGGTTACAAAAGACATTCCGC
CCTACTCTTTGGCGGCAGGCAATCCGGCAGTGGTGAAAAAGAATCTGCCGGAAGGTTGAA
TGCCGTCTGAACGTGTGCGGGCGGATGATCTGAAAAACAGGAACATCGTTTCTGTTTTT
30 TGCGCTTCAGACGGCATCGCTATTGCGCCACGCGCGtATCGATATCTTGGTAGAGTTTGC
CGAAATCGGGTTCGCCGACGTAGGTTTTGAGGATTCGCCTTTTTTGGCGATAAGGACGG
AAGTCGGATAAACCTGTGTGCCGAACGCCTGTCCGACAGCTTTGTCCGCATCATAATGA
CGGTAAACGGCAAACCGTAGTCTTTGACATATTGGCGGACGCTTTCTATCGGATCGATGG
GCTGGGCGACGGCAAGTACTTGGAAAGTTTTGTTTTATAGTCATTTGCCGTTTAAATGA
35 TTTTGGGCATwTCGCTCACACAACCCGGACAGGAGGAAACCAAAAATTAATCAGGGTTA
CTTTGCCTTGCAAGGTGCGCGTTTGAAACGGTTTTTCCGTGCAGGTCGGGACGGGAGAAGG
CGGGCGCGGTTTTGCTGTGCGGGATGAGGACGATGGCAAGGAGGATGCCGATCAGTGCGA
CGACGGCGCGGTGAGTATTTTTTTCATTCCGACAAGGCTTCCAATGCGCGGGCAAGGGT
GGCGGGCAGGCTGACGGTGCGTTGTGTGGCGGCGTGACGGGCATCAGGGTGATGTGGGC
40 TTCTGCGGCGGTTTTGCCGTTTGGCAGTGAATCGTCTGGGTCAGCACAAATACGGCGCGT
GCCGGGGGTTTTCAGGCGGCATGAAAACGCAATACGTGCGCTTCGACGGCGGGGCGGCT
GTATCGGATGTCGATGCGGGCGACAATCAGTATGAGGCCTGCCAACTCGTGACAGTCC
GCGTTCTTCAAAAAACGCCCAGCGCTTCTTCAAAAAATTCGAGGTAGCGCGCATTTGTT
GACATGGCCGTAGCCGTGAGATGGTAGTTGCGGACGGTCAGCTTCATCAGTTCAGGTTG
45 ATGGGTTGGAAGGCTTCGCGGGCAAGCGGTTCTGTTTCGAGGTGCGTGATGACGGTAGAA
AGCTGGATGTCGAACCATTCGTTGAAAATGTGCGCATCGAGCGCAGGCCACTCGCGTTTCG
TCTTCGCACACAGTCGGCAAGTTCGGCGGGCAAAAATGTCTTCAAAACGGGCTTCGATTTTCG
TCCCATACTTCGTGCGGCGTTTTCGCACGGGCGGACAAGGTAGGAATTGGCGTCGGCTTGG
ATGTCTTCAAGAGTCAGTCGTCGAGGTGGTTGCCGGCAGGGTTTGACGCCAGTTCCAA
50 AAAGGTTCTAAAGGGATGAGGACGAATACGCTGCGGTTGACTTCGTACATGGTTTTTCCT
TTGCTGTGCGCGGATGCGCAAAAAGAGATTATAGCCCAATCTGTGGTTTCGGACTGT
CCGTTCCGACAGAAGGGAATGCCGTCCGAACACGATTTTCAGACGGCATGGCTTTAAGG
TTGTGTTCCAGGTTGCGTTTTCCGCTTCCCCTGCTGCTTCTGCCTGTGTTTCGGATACGGA

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ATCTTCTTGAACGGCAGTTTCCGCCGCGCCGGTTTCGGCACTTTCGACCAATTCGTGAT
GTGATGTTATCTTCCGTACCTTCGGCAGGTGTTGCACCGGTCTGCCGCGCACGGACTTT
CATATAGAGGTCGCGCGTGTAGCTGTATTTGTGATGGCGGCTTCGTCCAGACTGTGCGT
CAAATCGAGCAGGCCTTCGCGCGTACTGACGGCGGATACGGCAGTCGTGCCCCAGCGTCC
5 GACAGGGGTGCGGAAGACGATATCTTGGGCGAATAAACGGAGGTAATACCCGTGCCGAG
CGCGTCGCGGACGGTGACGGCCCTAAGACGGGCAACACGAAATAATTGCTGTTTTTCCA
TCCCCACGAGGCAAACGTGTGCCCCAAGGTGTTTTTATTGTGCGGAATGCCGCCGCGCC
GCGTTGTCAACCGCCGCACTTCGAGCAGCAGCGACGACGAGCGGAATCGGCGCGTCCG
TTCGTTGCGCGTTTGTATGTCCAAGCGCAAGATATTGCTGCCGAAGCTGACCACGTGCGA
10 CAGGTTGTTAAAAAATTGGACACGCCGCGCGGACGGGTTTCGGCGCAACTTTGCGGTA
GCCGCGCGCGGACGGGGCGAAAATGTAGCGGTGCGCTTGGTTCGTTGAAATTTGAAAACGGC
GCGGTTGTAGCTTCATAAGGGTCGGCGGGGCGGGTTTCGGCAAATGCAGGGGCGGAAGC
GAACCCGATCAGCAGGAGGAAGGCATAGGCGGTTTTTTTCATGATTTAGCCAGTCTTTG
ATTTTCGTACAGTTCGGACAGCGCGCACGGATTTCGGGAATGCCGGTCAGCCTGACGCTG
15 TTTTGTCAACCGCGCAGCACTTCGAGCAGCAGCGACGACGAGCGGAATCGGCGCGTCCG
ACGCCGCTCAATCAACCGCGCAGGTGTCTTTCAGACGACATTGCTGTCTGAAGCGGGTA
AAAGCGGCGCGGTCAGGGTTTTGACGGTGATGTGCGCCCGATGTGCAATATTCCGTTT
TTGAGTTCTGTATGCATAGCGTTTGCTCGGAAAACCCATACCGCCCTCGGACGGTATGGT
TTGTTCGGTTATTTGCCGCCGTTTTCGGCTTTCAACTCGGCAATCAGTCCGTCCACGCCTT
20 TCGCTTTGATAATTTGCCGAATTGGTTGCGGTACACGGTAACCAGGCTCGCGCCTTCGA
TGGCGACGTTGTAGGTACGGTATTTACCGCCGCTTGGTAGGTGGTGAAGTCCATGTTGA
CGGGTTTTTCCCGCGGTACGCCGACTTCGGCGCGGACGATGATTTCTTTGCCGCTTTAT
TGACGATGGGATTGTCTTTGACGTTGACGTTGGCGTTTTTTAATTTAGCATCGTGCCGG
AATAGGTGCGGATCAGCAGGGTTTGAATTTCTTTGGCCAACGCTTGTTCGCGGTTCGG
25 ACGCGGTGCGCAAGGGTTGCCGACCGCAATGCGGTACATCGTTGGAAATCGAAATAGG
GAATCGCATAGGCTTCGGCTTTTGGCGAGCGGTGTGGCATCGCCGTTTTTTAAGATGC
TCAATACTTGAGTGGCGTTTTGACGGATTTGGCTTACCGCGTCGGCAGGGGCGGCAATG
CCTAGCCGATGCTCAAAATACCGATGCCAATGCGCTGATGAGGGAGGATTTTTTCATGA
TTAAGTTTCCGTAGTTTGAATATGATGGCATACGTTTATTTCGGCGGCTTTTTCCGCATTGC
30 CGCCGTGCGCATTTTTCTCGGCAAACTCGTCATGAATTTGCCGATAAGGTTTTCCAGAA
CCATTGCAGAACTGGTTACGGAGATGGTGTGCGCGCGCAGCAAGGTTTTCCGTGTGCGCGC
CCTGCTGCAGCCGATGTACTGCTCGCCCAAAAGTCCCGAAGTCAGGATTTGCGCGGAAA
CGTCGCTGCTGAACGTACTTGCCGTCCAAATCGAGGCGCACCCCTCGCCTGATAGGATT
TCGGGTCAAGTCCGATAGCGCGGACGCGCCCGACCAATACGCCTGCGGATTTGACGGGGG
35 CATTGACCTTCAAACCGCCGATGTGCGCGAAATCGGCATAAACGGCGTAAGTTTTGTCCG
AACCGCCGAACGCCCGCACCGCCGCAACGCGGAAAGCGAGAAAGCAACCGCCGCGCGC
CAATCAGGACGAACAGTCCGACCCAAAATTTCAATATGTTCTTTTTTCATTAAAGTTCCCTT
GAATATCCGATGTTCCGCGTTTCGTCTTCAGACGGCCTGTCAATCTGTAAACATCCACGC
GGTCAATATAAATCGACCGCCAAAATCGTCAGGGCGGACGAAACCACCGTGCAGCGTGT
40 GGCGCGCAAAATGCCTTCCGAAGTCGGGACGCAATGGAAGCCCTGATGCACGGCAATCAG
CGTTACCGCCACGCCGAACGCGGCGGATTTGATCAGACCGTTGATTACATCGTAATGTAT
CGTGATGTTGTTCTGCATTTGCGACCAAGAAATACCGCTGTCCAAGCCCAGCCAGGTTAC
ACCAACCAATACGACCCGAAAATGCCCGCACGTTGAAATCGAAGCCAAAAGCGGCAT
GGAAAACACGCGCCGCCCCAAAAGCGCGGCGCAACCACGCGGGGACAGGGTTTACCGCCAT
45 CACATTATCGCTTCGAGCTGTTGCGTCGTTTTTCATCAGACCGATTTCGCTGGTCATCGC
ACCGCCCGCGCTGCTGGCAACAAAATCGTGCCAATACCGGACCCAGCTCGCGCAATAG
CGAAGCCGCGACCATATAGCCCAAAATATCGGCGGATTTGAATTTGACAACTGCGTATA
GCCCTGTAAACCCAAGACCATGCCGACAAACAGCCCCGAAACGGCAACAATCAACACCGA
CAGCACACCGCGGAAATACACTTGGCGCACGCTCAGGCGCGGACGGACGAAAGCCGTACC
50 GGACTTCGCGAGAATGTTAGCAGAAACAGCGTGATACTGCCGAGGGATTGAATAAGGCC
GAGGGTTTTTCGCCCCGACGGAACGGATAAAGTTTCAATAATTTCTATGTGTAAGTTCAAC
GGTTTCAGACGGCATCAACTCATTTATCCCAACAGGTCCTGCTGCAACGACGTTTGCGCC
GGATAACGGTATGCTACGGGGCGCTTGCCAGCCCGCCGACAACTGGCGCACCCAAAGGC
GAATCCAGTTCGCGCATTTCTGCGGCGAGCCGGAGAACATAATTTGCGCGTGCGCCAAG
55 AAAATCACCTGATCGACGATTTCCAAAGATTTTCAATGTGCTGCGTTACCATAATACTG
GTCGAACGCAAGCCTTGTGACGCGGCTGATCAAGTGGGCAATCACGCCAAGGAAATC
GGATCGAGGCCGGTAAACGGCTCGTCGTACAACATAATTTAGGGTCGAGCGCAATCGTG

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CGGGCAAGCGCGACGCGGCGGACATCCCGCCGGACAACCTCGGACGGCATCAGGTTTTCC
 ACACCGCGCAGACCGACCGGTTCAATTTCAACAAAACCAAATCCCGAATCACCGCTTCC
 GGCAGGCGCGTCAGTTTCGCGCATCGGAAAAGCGATATTGTGCAATACCGACAAATCAGTA
 AACAGCGCGCGCTGTTGGAACAATACGCCCATACGGCGCGGCTGTTTCATACAACTCGTCA
 5 GCCGAAAAGCCCGCCAAATCCCCTCCTTCAATCAAAACCTGCCCGGACTGCGGACGAATC
 TGCTCTGTAATCAGTCGCATCAGCGTGGTTTTGCCGCTGCCCGAACC GCCCATTACGGCA
 GCAAAATTGCCTTGCGGAATGCTGAAATTGATGTTCTTCAGAATCGGGCGGTCGCCATAC
 GCGAAGGCGACGCTCTTCATTTGATAAAGGGGGATGGGCTCATGTACGGACGGACGGTA
 GGTTTGACGGCGTGTATTTTAAGGCTTATCGGGAAGACGGGCAATTTTCAGACGGCATA
 10 GGACGGTAATGTTGTGAAAATGCCGTTGTGCGCGCGGATTGTTTGCTGTGGCGAAAAA
 TGTTATCTTTCAAATGATAACCTTTATCAGAAAACATGGAAGAAAGCAGAACATTTGAAC
 AGCAGCCGGTTCTGTCATCTAGTCAAAAGCGGCGGCGGAGCTATGTGGAGGGCAGCTAC
 CGTTTCGATACTTTGTCCAACGGCATTTCATCCACGGCGGCACAGTAACGGCACGGTGT
 GATTTTGCAGCAGCCGCTCGCCGAACCTTATGTGTCGTTCTGCTCTTGCTGGAAGGC
 15 AGTTTGGACTTCGGCATCAACCGCTGCCGCTTCCAAATCGATGCGGACGGCGGCAAGATT
 GTCCTAATTGCTGTGCGGGGAAGAGTCTGTTTCAGCCGCTATCTTTACCGAGGCGGCAAA
 ACGGTCAAAATGACCATTAAGGTATGGAACAATGGCTGCTGCGTCCGGAATACGCGCGT
 TTCGACCCCTGCTTTACCGCGAACCGGTCAGGATATGGGATTTGCCCGGAACCTGCGC
 GGCTTGGCGGCGATCCTGCTGAAGCGCTCCCAAAGGGGCATTTGGGCGAAACATTGCGC
 20 CGCGAGGCGGACGTGTGCGGCTGCTGTCGGACTTGTGGGACACGGTTTCAGACGGCATC
 GGGCGGCGGCGGGGCAACGGCGGAAGCAGACGCTATGCCGCTGAAGACTTCAGCCGC
 ACCCTAAATGCCGCTTTGCGGACGGCGCACACCAAGTCAACCGGCTGACAGACGCGCTG
 AACATCAGTGAAAGGACGCTGCAACGCCGTATGCGCGACCATTTGCGCATACGGCAAGC
 GAATGGCTGCACCACAAACAAATGCAGCACGCGCTCTATCTGTTGCAAAACGGGGAAAA
 25 AGCATAGGCGAAACCGCATATTTATGCGGCTACCGCCACGTTTCCAGCTTTACTCAGGCA
 TTCAGGCAATATTTGCGGACGACGCTGCGGAAACAAAAAGAAACCGGTAAGCCGCA
 TTTGATTTCAAAACCGAAATCCGCGTGATAGTGGATTAACAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 284>:

30 **gnm_284**

CTCGCACGTATGGTTACCTCAGGCGAGGCGGACTTGGCGATTGTTACGGAACGGATAGAC
 GACCATCCCGAAGTGGGAAAACCTCCCTGCTATGACTGGACTCATGCGGTTATCGTACCG
 AACGACCACCCCTTGCTCGAATGAGAAACCCCTCCGTTATTGAAGATTTGGCGAGGTTT
 CCGCTGATTACTTATGAATTTGCATTCAATGCGGGCAGCAGCATCGCGCGGGCATTTC
 35 AAAGCCCGTTTGAACAACCCGATGTCGATTGGCTGCGGCAGATACGGACGTATTGAAG
 ACTTATGTGCGCTTGGGTTTGGGCGTGGGACTGATGGCGAAAATGGCGTACAACCCGGAT
 ACGGACGGCGATTGTCAGCTTGTGGATGCGGCACACCTGTTGAGCCGTCGCCGACGTGG
 ATTGCTTTGCGCAGCGATACTTATTTGCGCGGATATGCCTACGACTTTATCCAAGCGTTC
 GCGCCGCACCTGACACGCGAGAAGGTGGATAGGATTCTGTACACGCCATCAGCGAGGAT
 40 TTTTCGATTTAGGCGGCTGCCGTTTTCAGACGGCACTTTGCGGCAGATACAACAAACAG
 GACAGATGTTTTGCTGTCCTGTGTTTATTGAGAATGCTGTCTGAAATGTTTGTACGGG
 TTAATCAAATGGCGTGCGAGCAGCCGGACACCATTTTTTCAACACCTGCAGATTGAGGA
 TTTTGATGTGCTTATGCTCGACGGAATCAATCTTCTGATGAAATTTAGATAATGTGC
 GGCTGACGGTTTCAAGTTTCAGCCCGAGATAACTGCCGATTCTTCGCGGGACATTCTTA
 45 AGATGAAGTCGTTGGCAGCAAAACCTCGGGAATAAGGCGTTGGGAAAGGTTACGAGGA
 AGGCGGCAATCCGCTCTTCGGCGCGCATATTGCCAACAGCAGCATAACACCTTGGTCGC
 GCACGATTTACGGCTCATCATGCGGAAGAAGTGCGTACGCAGGCTGGGGATGTTTGGC
 CCAGTTCTTCGATGTGGGTAACGGCAGTTCCGACACTTCGCTGTCTTCCAAGGCGACCG
 CGTCGCAACTGTGCACATGGGAACAGATGCCGTCCATGCCGATGAGTTCCGCCGACATAA
 50 AGAAACCCGTTACCTGATCGCGGCGCTCTGACTGGCGACGGTTGTTTTGAAGAAGCCCG
 AACGGATGGCAAGAGCGAGGTAAAGGCTTCGCCGACACAGAACAGGTATTGCCCTTTT
 TCAGGCGGCGGCTTTGACGGATGACGGCATCGAGTTGGCTGAGCTCGTTGGGACGAGCC
 CGACAGGACGGCAGAGTTCCCGCAAAGAACAGGAAGAACACAGCGTTTTTCATCTGATGTG

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5 TAGTATTATGCGAAGCCATACCGTACCTTTTTGTGCGCTTTGCCCCATCATGATTATAGT
GGATTAAATTTAAACCAGTACGGCGTTGCCTCGCCTTGTCCTTATTTAAATTTAATCCAC
TATATGTGCTTATTGACACATATCAAGACAGGTTTATCATACTGTGGCATTCTACCAAAC
TATCCAAAATTTGACTAACATCATAAAACCGCACACACACCATGAAAATCATTTCAGAT
10 ACAGAAACATTCACAATGTAAACGATGACCGCCCCGAGTTTGACCGCGCGTGATTGCCAG
CCTGCCCGCCAGCGGCCCGCGCTACACTTCTACCCCTACCGCCGACCGTTTCCATGACGG
TTTCCGCGAAGGCGAATATATCAAAGCTTTACATTTGCGCGGTATGGGCGCGTTAAACAA
ACCGCTTTCCCTTTACATTACATTCCGTTTCTGCAACACCATCTGCTACTACTGCGGCTG
CAACAAAATCATCACCAGAACAAAAGCCGCGCCGATGCCTACATCGAATATCTTGAAAA
15 AGAAATGGAAGTCTGCTCCACATCTGAACGGACGGCACCAGCTTGCCCAACTGCACTT
CGGCGGCGGCACGCCGACCTTTTTGAGCGACGAACAGATCGAACGTGTCTTCCGCATGAT
ACGCAAAACATTTTCGAGTTAATCCCACCGCGAATACTCCATCGAAATCGACCCGCGCAA
AGTCAGCCGCGACACCGTCTCATGCTCGGCAGACTCGGCTTCAACCGCATGAGCATCGG
CATTACAGGATTTTCGACCCCAAAGTGCAGGCGGCGGTCAACCGCATCCAAAGTTACGAAGA
20 AACCAGAAAGTATCGATGCGGCGCGCGAAGCGGGGTTCAAATCCGTACGCGTGCATTT
GATTTACGGCTTCCCGCACCAGACTTCGGAAAGCATCAAACACCACATCGATACCGTTTT
GTCGCTCGATCCCGACCGCTCGCCCTTTATCACTACGCCACCTGCCGCACGTGTTCAA
ACCGTAACGCCGCATCGATACCGCCGCGCTTCCCGACAGCGAAGAGAAGCTCGATATGCT
GCAATACTCGCTCCAAACCTTAACGAAACGCGGTACGTCTTCATCGGCATGGATCATT
25 CGCCAAACCTGACGACGAACCTCCATCGCCCTCAAAGAAGGCTTCTCCAGCGCAACTT
CCAAGGCTATTTCGACCTACGCGGATTGCGATTTGGTCCGCATCGGCGTGTCGTCCATCGG
CAAAATCGGCAGCACCTATTTCCAAAACGAACGCGACATCGATGCCTACTATGCCGCCAT
CGACGAAGGCGAGCTGCCCATCATGCGCGGCTACCAGCTCAATCAGGACGACATCCTGCG
CCGCAACATCATTACAGGATTTGATGTGCCGTTTCGCGCTCGACTATCGGATTTACGAAAG
30 TATGTTCCGGATCCCGTTTCGACCGCTACTTCAAAGACGAACGCGGATTTGAAAAACT
CGCCGGTTTGGGATTTGGTGCCTGAAACAGCCACGGGCTGACCGTTACCCCGAAAGGACG
CTTCCTCATCCGCAACATCGCCATGGTCTTCGATTACCACCTGCGCCATAAAGAAACCAA
GGCGAAATATTCGAAACAGTGTGATTGTGGCTAACGTACAAATGCCGTCTGAAAGGCTT
TTTCAGACGGCATTTTGTGTCGGGAGGATAAGTGTTCAGAACAGGCGGCGGCATAT
35 CATAACGTTCCGCACCTTTGTGTCCGACCGTTCGGAAACCAAGATATAGTGGATTAACAA
AAACCAGTACAGCGTTGCCCTGCGCTTGCCTACTAGCTGTACTGTCTGCGGCTTCGTGCG
CTTGTCCTGATTTTGTAACTACTATACCAAACGGCATATCCCGACAGAACAGATTGTG
CATAAAGGACAAAGCCCGCACATTCCATCAACAAAATGCCGTCTGAACACGGGTTTCAGACG
GCATCAGTATTTTACAATCAGAATACTGCCTGTAAAACCAAGTAGCAGACAACCGACAAT
40 ACGGCGGCGGCAGGCAGGGTAATGACCCACGCCAAACCGATGGGCTTCATCAGTTTCCAG
TTGGCATTGCGGTTGACCAGACCGATACCGAGTACCGCGCCGACCAAGATATGCGTACTG
GACACGGGCGAGCCCATCAGCGACGCGCCATCAGACGGAGGCGCGGACAGTTTCGGCG
GTAAAACCCGAAGCAGGATGCATTTCCGCCAAACTCGTACCGACGGTTTTTAATCACCTCT
TTACCGACAAACCACAAACCGACAATCAGCGCGATGCCGAAAGTCAGCATCGCAATCGGG
45 GGGACGACATTTTGC GCGCAACGCTGTTGGTACGCAAAACATCCATAATCGCGGCAAC
GGACCGATGGCGTTGGCGATATCGTTGCGACCGTGGCTGAATGCGAAGCCGCGAGGCGGTA
AAGACCTGCATCCATGAAAACATCTGAAAGGTCGATTTGCCCAAGTCTTTACGCTTGAGG
CTTTTGCAAAAACAAACGTCCTCCATCCACACCGCGCGCTATCATAAAGATGGTCAGG
AAGCTGTTGACGTTGCTCATCCCCAAATGACGTTTTTCAAGCCCTTGAAAATCAGCATA
50 GCGGAAATCATCATCGCGCCGAACGAAGCGATAAAGGGAATCCAAGAATGCAGTGCCTTG
TAGGAATCGACATTGTTTTACGTTTGTGCAACGCATAAAGACCGCGGTAATACTCCGAT
TGCAGCTCTTGCGGATCGAATTTCGGGTTGTCGTGTAATTTGCGCGTCGTGCGCCATTTG
GTGCGCTACTCGACTTTTTCGGCTTCGGACAAACCTCGAAAAACAGGCGGTGCCGTTCT
TTATAGGCCTTTTTTCTGCTTGATGCCCTTGAGCGTGCCCTCCGCCCAAGCGTTGTAA
55 TCTAAGACGTTTTTCTTGACGCGCGAAAACAGAAAATAGGACACCGCGCGCCCAACACG
GGCGACAATACCCAAGAAACACCAATACCGCCAGCTTGCCCAACGTATCAAATCGCCCC
GATGCGGCATCGTTCATTACCGCCATACATACCGCGCTGCCGACAATGCCGCCGATAATG
GAATGGGTGGTAGATACCGGAAGCCCTTTTTTCGAGGCAAAACAGCCACAACGCCGCC
GCCAAAAGCGCGGACATCATAATAAACACAACTGTATGGGTTGCAATCAACACCTTC
AAATCGACGATGCCTTTGGCGTATGGTATTGGTTACCTCGCCGCGCGCGATGACCGCGCG
CTGACCTCAAATACCGCGCAATCAGCAAAGCCTGCGGGATGGTCAGCGTACCCGCACCG
ACGCTGGTGCCGAAAGAATTGGCAACATCGTTGCCGCCGATGTTGAACGCCATAAACACG

CCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 285>:

gum_285

```
5  CGTGGAATCGGCTCCGTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTT
   TGTTAATCCACTATAATTATTTTTTAGCGTGTAACAAAACCGGCTGCATACCTGCAAC
   CGGCCTCAAATCAGCACAATTCCTTATCCAAATCCGCCAACAGGTCTTTCAGAGCGTCTC
   CGATTTCTGAAGCGTAACCGGACGGTTGCCGTCCGAACCCGATTCCGCACCTTCTGCAT
   ACGGTGCAAACGTGCTCTGCAATTTCAACAGTTTACCACATCCAAACGGGTGTAGCGTT
10  CGCCGCCGTAACCGACAACACACCGTGATCATGCTGCCATTGCGCAAAACCATAGGGGC
   TGATTTGCAACAGTCCGCACAACCTCGTCCAGCGTGAAATAGCGTTTTGCGGGAACCTTCA
   AATCAACGTTGTTTGTCTAGTAGTGTCCACCATGCTTTGAGTTTCTGGCTGGCATGG
   AAAGTTACCACCGCGCGGGCGGTAATCGGCCTTCCTCGCCGGTTTTAGGATTACGACCC
   GGGCGTTGCGGCTTGTGCGCAACTGGAAATTTCCGAAACCGGAAATTTGATTTCTTCG
15  CCGCTTGCCAAAGTGCTGCGGATTTCTTCAAAAAGAGTTCGACGATTTCTTTGGCATCG
   TTTTGGTGACGTTGCTGACTTTGTCTACCAAAATATCGGCCAGTTCTGCTTTAGTGAGA
   GTCATATGATTACCTTCTGTTGTAAACAGTTGTGGATTATTACCAATTTTATTTAAAT
   CAAGCGAATATTTATTTTTTAACGCGAAGCCGCGCCCTGCGCGCGTTGCGCGCGCAAT
   CAGTTTTCCGATAAGCGGCTCGACTGCCTCATCCGTGAGCGTGTTCATATCCTGCAA
20  AATCACTTTGACCGCCACGCTCTTCATCCCTTCGGGCAGTCCCGTGCCGCGATACACGTC
   AAACACGCTGATTTCTGTACCACTTGTTCGCGCGCTTTCAAGACAAGCAGCAAATC
   ATCATGGCTCATAGCTTCCGGCATCACAAACGCCAAATCGCGGCGCACCGGCTGGAATTT
   CGATACGACCCGATAGCGGTTTTCCCGCATTCACACGGCCGCCATATCGATTTCAAA
   TACCAGCGGCGCTTGCGGCAGGTCGTATTTTTGCAGCCATTCGGATGCAGTTCGCCGAC
25  AAAGCCGATGACTTTGCCGTCTGAAACGATATTGGCGGCACGTCCGGGATGCAGGGCGGG
   ATGTCGGGTTTTAACGAACTCGACTGCTTTGTTTTCAACAGATTTCCACGTCCGCCTT
   GATGTCGTAAAAATCCGCAATTGCGCGTTTTCCCGCCCATTTGTTCCGGCATGACCGCGCC
   GTACCACAATCCGCCGATGCGTTTCGTTTTGGACAACTGGCCGTCTGAACCTTTGCTGAA
   CACGCGGGCGATTTCAAACACGCACACGCGGTTTTGTTGCGGTTGAGATTGTTTTGCAG
30  AATTTCCACCAAGCCGCCGATGAGCGTGGAACGCATCACGGCATACTGCGCCGCCAGCGG
   GTTTTGCAGGCGGATGGGGTCGCGGTTGGCGGCAAAATCTTGTCCCACTGCTCGTCAAC
   GAAGGCATAGCTGACCACTTCGCGGTAACCGCGAGCCGCCATTTTCGTTGTAAACGGCAAA
   ACGCGGGCGGCGTGTTCGGGCGAGTCCAGCATTTTCAGACGGCTGACGTGTAATCGTC
   GGGGATGTTTTATAGCCGTAAACGCGTCCGATTTCTTCAATCAAATCAGCCTCAATTC
35  GATGTCAAACGGAAGCTCGGCGGTAACGCGGAAGCCTTCGCCGTTTTCTCGGGCTG
   CAGGCCCAAGTGTGCAAAATGGTTTCCACCTGTTCGGCAGGAATGTCCACGCCCAACAC
   GGTTTTCAGACGGTCCAAACGCAATCCAACCTGCTTCGCTTCAGGCAATTCGCCTTGC GC
   TTCCACCATCTCGCCTGCCGACCAACGCAAACTGCAACACCAATTCGGTAGCACGTTT
   AATGGCATCCGCCTGCAACGGTAATCCACGCCGCGCTCGAAGCGGAACGACGAATCCGA
40  ACCGAAACCGTATTGGCGCGATTTGCCGGCGATGATTCGGGCGCAAACCAAGCCGCTTC
   CAGCACGATATTTTGCCTGCCGTCTGAAACCGCGCTCGCCGCGCGCCCATTAAGCCCGC
   CAACTCAACACGCCTTTTTTCGTCCGCCACGACAGCGTGTTCAGACAGGGAAACGGT
   TTTCTCGTTACGGCATTCCAGCGTTTCCCTTCGCGCGCGCGGCGGATGTGCAGGCTGCC
   GGAAAGTTGTGCGCATCAAAAACGTGCATCGGCTGACCGATTTCCAGCATCACATAATT
45  GCCGATGTCCACAGCGCGGAAATACTGCGGATGCCGCTGCGCTCCAAACGTTGTTTCAT
   CCAATCCGGCGTAGTAGCGCGCGGTTACGTTTTCAATCACACGGCTGATAAAACGGCC
   GCAATCGGCAGGCGCGTTAATCTGCACGGGCTGTTTTCGACTGCCCGTGATCGGCGGGT
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50  CAAATCCAAGTATTCGCGGATATTGGTACCGACGGGCGCATCTTCAGGCAGAATGTGCAG
   GCCGTTACACCGCTCGTCGGGCGAGCCAGTTCGTGCGTGGAAACACAACATCCCGTCCGA
   CACCTCGCCGCGCATTTTGGTTCGGCTTGATTTTGAAATTACCCGGCAAAACGGCACCCGG
   CAGCGAACACGGCACTTTGATGCCCGCTTTACATTCGGCGCACCGCACACAATCTGCAC
```

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TTCAACGGATTTCACTTCGGCAATCACCACGCCCGCAAACGCAGGCGCGCAGTTTCAGC
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5 GGTATCGGCTTGGGTTTTTCAGCCATGAGTAGGAGAATTGCATGGTTAATTTCTCTATATT
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10 TTTTTGTGTTGGGTGAGTTTTATTACGATTTTTCCGCACACTAAACCGGAAAATTTTAGA
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15 CTTGTGAGGATACCGAGACATTAAGATCATGTTATCTTCATTTGAAATAGTTATCATGTA
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CGAATAATTACAATTGGGCAATTACGAATATCGGATAATACGGCAGGGACATAACGTGGT
20 GTGACAACAATTGTGTAATGGCCTTAATTTTTATTTTTATGATCTTCCAATCTTCTCGAA
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40 ATTACCAGCGCGCAGTTGTCATATCTATTTTCTCTCTCTACAATTTTTTTAATTA
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55 AATTTGAAACACTTCTCATGAAGTATACCTATAATCATTTTACTTTTCGGGATATA
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CCGCATTATGCAAGTAGGTTTCTGCAATCCCTGCACTCGAAAACAAAGAAGCCCTATCA

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5 GCACGATCATTTTCGCAAACCTGCTTCAAAAAGTTCAAATCATTATCGAAGAACAGGCGCAA
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25 ACTTTAAGAAAGAAAATCAATCACATAGAATTTCTGCAAACAAAGAAAAAAGGAAGCCG
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 5 GGCTCATTGCGGTGGCAAGAACC GAATTCGCCAAACGCATCGGCAATCTCGATACGAA
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 TGCTTGACGGCATGCCCGACAAGATGCGCGCAGGAATGGCGGATGATTCGATGCCTTCC
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 20 ACCAATTTGCCGTTTACCCTGCCTGCCACCGTGCCTTCGCCAAACCGGCACCGATAGAC
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 25 TTTGCAAGAGGTATGTGCGTTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 286>:

gnm_286

GCACCTCAGACGGCATTATATGCCTTGCCCTCCATGCCGTGATGTTTCGATGGCAAAACCG
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 35 ACCAGTATCCTGCCCGCTCCCGAATCGCACGGGCAATCAGGCGGCAGGTGAAAATCGGA
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 45 TGTTCAACACTTCGATGGTCAGCCCTTTTCACTTTTACGACATCGCCCGGTTTGTGTTG
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 GCGAGAGGCTTTGTCCGTAAACTTGCCTTCGGCGACGCGCAAGGCTTCTTTGACGGCGG

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 CAACATCAGGCGGAATTGATGTGGCGCATCTCGCTGACCGTCAGCGTCTCTACTCTGC
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 30 AAATGGCGGTTATGGCGGTTTACGCGCTCCTTGCTTCTCGCTTTGTACAGCTTTTTTG
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 ACATCCGCCACCTCCAAAACAACAGCCAAAACACCCGAATCTACGCCATCGCATGGTGGC
 GCAAAATTTGGTTTACCCCGCCGACGCTGGGTGATGGCGCTCGTCGCCTTTGCCTTTACCC
 CGCAAACCACCGCCACGGCAATATGGGCTTAAAACCTTTCGGCGGCATCTGTCTCGGAT
 45 TGCTGTTCCACCTTGCCGGACGGCTCTTCGGGTTTACCAGCCAACCTACGGCATCCCGC
 CCTTCTCGCCGGCGCACTACCTACCATAGCCTTCGCCTTGCTCGCCGTTTGGCTGATAC
 GCAAACAGGAAAAACGTTGAACCAATGCCGTCTGAACCTCTTTCAGACGGCATTGTTTT
 TCATTGACACATTCCCACAGACAGATAGCCGTTCCCTATTACATTACCTGTCATAACAGT
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 50 CAAATCATTGTCAACCCGACAAAAGAAAAACAGAAAAAGGAACAAAGAGATGTTAGAAGC
 CTATCGTAAAGCCGCCGCGAGCGCGCCGCTCGGCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 287>:

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gnm_287

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 10 CTTGGAGGGCGGCAGCGTTCGGATACTTATGTCTTCGGCAAAGGCTTCGGTCAGGATGC
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 25 CAATATACAATCCGTACAGCAGCCGTTATTGGTAACGCCATCTGCATAAGGAGCCTAATT
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 ATAACGTAACATCTGTTATGGTAAAAACAAGCCGCTGTTTGTTCAGCGGCTTGCGGGGT
 CAGGTGGTGTGGCGGTGGTGGCTTTTGAAGCATTTGGCCAGAATGCCGCTTCTTTGCCG
 AGTATGACGGCAAAGACATATCGGACGCTGCACCAGCGGATGAT

50 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 288>:

GNMCS11F gnm_288

CCGGCACCACGCCTTACGACACCGCCACCTCGAAGTGATGTTTCGACCAATGTTTCAGCC

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AGATTGACTATTTGCGCCGCAAAGGGACGGGCGCCGGCTCCGGTTTCGTCCGTCAAAGTCG
CCCACCTGCTCGAACGGCTCCGGCAGACCGTAGACCGTCTGAAGCTGCTCACCGACATCC
AAACCGGCGCCGGCAACAGCAACCGCCTGACCATCGCGCTGATGAACTCCCTCATCTACG
CGGCGGTGGAACAATACAGCACCCGCCACCTGCGCCGCGCAGCATCCGTATGCTCGCCCG
5 CAGCATTACCGAAAACAAAAGCCACCACGGCGAACACTACATCACCCGCAACCGCAAAGA
ATATTTCAAATGTTCTACTCGGCGGCAGGCGGCGGCATCATCATCGCCCTAATGGCGCT
GCTCAAATCCGCATCGGCTCACTCGGCCCTCAGCCCCCTCCTCACTTCCTTGTCGGCTGG
GTTCAACTACGGCATCGGCTTTATGATCATCCATATGCTGCACTGCACCGTCGCCACCAA
GCAGCCCGCGATGACTGCCGCCAGCAGGCAATCGGAGTAAAAAATGAACCTTGATTTAAC
10 CGCGCAAAAAGTCCGTCTTTCTTGGAAGGATATTCTGTGGGGGTATGGGAATAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 289>:

GNMCS48F gnm_289

TGCTGGCAGCAAAGAAATCTGCACGATTGTCAATGGTGTGAAATACTTGTCAAATCTTG
15 TAGATGCCCCCTTGAGTTATATAAATAGCCAAAACCTCTTTGGCAACCCGTGATACAT
CCGAAGGGATATACTTCCACGCAGCAGGCATGGCAATATATTTAATAGATATATTAATGC
CGTTTCTGCAACCATCGCGCAATGGGTTCCTAGAATAGACTTGTTGAAGTTCGTATCAA
TTACTTTGCGAAATTGTTTCATCCGTTTGATGGCATTACTTTTTTCATCGTAGTAGTGC
AAGTT

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 290>:

gnm_290

GTCGACTCTAGAGGATCCCCCTGGGATTGAGTTTAGACCAGACTGCTCATTATACTTTATG
CAGGTTTGTAATATTTGGCAAACCTCATAAATTATGCCTTGTAATCAAGTCATCAAATA
25 AGCATGTAAATAACTACTATAGAAATTAAATTACAAAAATATTATGTATTCTTTTGTA
CAAAGGGTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCCCTGAGTGAAATTGT
TATCCGCTCACAAATCCACACAACATACGAGCCGGAAGCATAAAAGTGTAAGCCTGGGGT
GCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCTTCCAGTCG
GGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTG
30 CGTATTGGGCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 291>:

GNMCS78F gnm_291

CCCGCGCAGGCGGCAATCTATCGGAAATGACTGAAACCTCGAGATTCTAGATTCCCACTT
35 TCGTGGGAATGACGGTTCAGTTGCGTTCCAACAACACCGCAATCTCGAAATCCGTCATT
CCGCGCAGGCGGAAATCCAGACCTCCGACGCGGCGGGAATCTATCGGAAATGACTGAAAC
CTCGAGATTCTAGATTCCCACTTTCGTGGGAATGACGGTTCAGTTGCGTTCCAACAACAC
CGCAATCTCGAAATCCGTCATTCCACACAGGCGGGAATCTAGACTCCTGACGCGGCGGG
AATCTATCGGAAATGACTGAAACCCGAGATTCTAGATTCCCACTTTCGTGGGAATGACG
40 GTTCAGTTGCGTTCCGACAACACCGTAATCTCGAAATCCGTCATTGCGTACAGGCGGGA
ATCCAGACCTCTGACGCGGCGGACTCTATTGGAAATGACTGAAACCGGAGATTCTAGA
TTCCCGGTTTTGTGGGAATGGCGGCTCACTTGCAATCCGACAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 292>:

-715-

GNMCV37R gnm_292

TCGGCATT TTTTATCCGTTT TGGGGTAACTTGT TGGAAAGCTGCAACTTCATAAATA
CAGGATTACATTTAAGTTT TGGGTAACTTTTAAAAAATGCGTGATGACTTTTGCATT
TTTAAGGCGTTT TGGGGTAATTCGTGAAAAGTTACCCCAAAGTTACCCATAAATGG
5 CGAAACTCAAGCATACGCCAGCATCCTGCAACACAAAAAGCCTTGAACTGTTGAAGT
TCAAGGCTTTTGTGTTGCAGGATCTGCTGTCAATAGGGTATGGTGGAGGCGGGGGGTA
TCGAAACCCCGTCCGATATTCTCTACAAAGCGTTCTACATACTTAGTTGTGTCTATATG
AGAATCTTATTTCCATCATGCCGACCAACAGGCTTATGGATACCAGTTACCTTAAGTCT
T

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 293>:

GNMCV44F gnm_293

GACGGCCAGTTTCGCGAAAACGACGGCCAGTGCCAAGCTTGCATGCCTGCAGGTCGACTCT
AGAGGATCCCGCGATGGCTTGTGCGAGTTGGGGCAGGATGGGGGCGTTGCGGTGCGGGT
15 TTTGGCTTAAAAATTGGGTGATGAATTCGGGCACTGGCACGCAGATGCGGCGGATTTGCT
TGGGCAGTGCTTTGATTTGCAACTGGATTTTTTCGCGTATCATGCCGGGCACCAGCCATT
CGTGCGACGCGCGTGCAGGCGGTTGAGGACGGTCAGCGGCACGGTCATGGTCACGCCGT
CTAGCGGATGGTGCGGCTCGAAGCGGTAGGAAAGTTGAATTTGCCGCTGCGGTTTGCC
AGAATTTGGGAACTGTTCTTCGGTAATGTGTGCGGCGGCGTGTGCATCAGATCG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 294>:

gnm_294

GCCCCACCAACCTGTGAGTCTCCTTGCTGCTGGTGTGTGTGGCCGCCCACTCACCCATG
CATCATGACCCGTGGGATCTCAGTAGCCAGCGTGCACTGATTCTGCGCACTTATCAGTGC
25 CTTCGTACACTTTGCCACTTCCACTTCGGCAGTAATCTGCTCGATGCGTTTTTTCGCCG
CATCGCCGGCTTCTTGAGTGGTTGCGGCAATGGTAATCGTACCGTCTTCGGCAATATTGA
TTTCCGTACCGGTTTCAGCGTAATCGAACGGATGGTTTCACCGCCCTTACCGATAACTT
CGCGGATTTGTCTTGTTGATTTTCATCGTGAACAAGCGTGGCGCGTGTGCGGACAGCT
CTTGCGGGCCCGCAACGGCGGCTTTCATCTGATCCAAGATGTGCAGACGCGCTTCTTTGG
30 CCTGTGCCAAAGCGATTTGCATAATTTCTTTGGTAATGCCTTGGATTTTGATGTCCATTT
GCAGCGCGGTAACGCCTTCGGTCTGACCGGCCACTTTAAAGTCCATATCGCCCAAGTGGT
CTTCGTGCGCCAAAATGTCGGTCAGGACGGCAAAATTTGTTGCCCTTCAGAATCAGACCCA
TCGCGATACCGGCAACGTGTGCTTTCAAAGGCACGCCGGCAGACAGCAGGCTCAGGCAGC
CGCCGAGACGGAAGCCATAGAGGAAGAGCCGTTGGATTTCGGTAATTTTCGGAGACCACGC
35 GCATGGTGTAGCTGAAATCTTCAGGTTTCGGCAATACGGCCAACAATGCACGTTTAGCCA
AACGGCCGTGACCGATTTACGGCGTTCGGTGCGCCATGCGGCCCACTTCGCCGCTAG
AGTACGGCGGAAAGTTGTAGTGCAGCATAAAGCGGTGCGTGTATTCGCCGGACAGCGCGT
CGATGATTTGCTCGTTCGCGGAAGTACCCAAAGTTGCAACGGCCAAAGCTTGGGTTTCGC
CACGGGTAAACAATGCAGAACCGTGCCTGCGCGGCAATACGCTGGTTTGATGTTTCAGCG
40 GACGGACGGTGC GGTTGTCGCGCGCTCGATGCGCGGTTGGCCATCCAAAATTTGGCTGC
GGACGACATCGGCTTCAAGTGTTTGAATATGCCTTTGATTTTCGTTGGCTGCCAAAGTGT
CGGTTTCTTCGGTAATCAAGGCTTCTTTTACCGCACTCCAAGCTTCGTCCAATTTGGCAG
AACGCGCTTGTTTTGACGGATTTTGAACGCTTCTTTAATGGTTTCGCCGGCAATCCCGC
GGACTTTGGCAACCAAGTTCCTCATTGGTTTCAGGTGCTTTCCAATCCCAAAGTTCGGAT
45 TGACTTCGTGCGCAAAATTCATTGATTGCATTGATGGCAACCTGCATTTGATCGTGGCCGT
AAACCACCGCGCCAGCATCACGTCTTCGGGCAGGATTTTGGCTTCGGATTCACCATCA
ACACGGCTTTTGAAGTACCGCGACCAAGTCCAATTGCGATTTTCGCCAATTCGGCTT
TAGTCGGATTCAAAACGTACACGCCGTTTACATAACCGACGCGTGCCGCGCCGATCGGGC
CGGCAACGGTACGCCGCTCAACACCAGCGCGGCAGATGCACCCAACATTGCAGGAATAT

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5 CAGAATCGATTTTCAGGATCGACGGACACGACCATCGCTACGATTTGGATGTCGTGGTAGA
AACCTTCAGGGAACAGCGGACGAATCGGACGGTCGATCAGACGGCTGGTCAGGATTTCTT
TTTCGCTTTGTTTGCCCTTCGCGTTTGAAGAAACCGCCGGGAATTTTGCCCTGCGGCGTAAG
TGCCTTCCAAATAATCGACGGTCAGGGGGAAGAAGTCTTGACCTTCTTCACTTCTTTGT
10 TGGTGGTAACGGCAACCAAAACAACGGTGTGCGCCATAGAGACTTTAACGGCAGCGGCGG
CTTGGCGGGCAATTTGCGCGGTTTCCAAAGTAACGGTCTGATTACCGTATTGGAAGGTCT
TAACGTGTTTGTGGAACATCATTGTTCTTTCAAATACCGCACTGCTAAAACACTAATA
ATGCACACTAAAATCCGAATGTGCATAGTTAGGGTTTCAGACCGTGCAGGAGGTTATAAA
CAAGCTTTCAGACGGCATTTCGGACGCTGAAAGCAATTGCGGATTATAAAGCAACCATC
15 CTTAAATCCAGTATTGATACAATAAAAGGCCGTCTGAACCATATTTCTTTCAGACGGC
CTTCAAACCTAAAAATCAATCCTGAGTCAGCAAAGTCAATGCTTCCCGATACTTCTCGAC
AGTTTTCTGAATCACATCGGCAGGCACTTTCGGCGCAGGGGCTTTTTTGTTCGAACCGCT
TTGTTCCAGCGAGTCGCGGACGAATTGTTTGTCAAAGACGGCGGATTGGTGCCGACTTT
GTATTGGTCGGCAGGCCAAAAACGGCTCGAATCGGGAGTCAATACCTCATCCATCAGCGT
20 CAGCGTACCGTTTTTCATCCAAACCGAATTCAAATTTGGTATCGCAAATAATAATACCGCG
CGATTTGGCATATTCGCGCGCTTCGGTGTAAGCCGAACCGCCTTGGCGCGCACTTCTTC
CGCCAATTTCTTTCGCGATAATGCGTCCGCATTCTTCAAAGCTGATGTTTCATCGTGATC
GCCGACTGCGGCTTTGGTTGAGGGCGTAAAAATCACTTCAGGCAGTTGTTGCGCTTCCTG
CATACCTTCAGGCAGTTGAATACCGCAAACCGAGCCGGTTTTTTGATAATCTTTCGAACC
25 GTCGGCGCAAAACAATAACCCATGGCAGCAATCGCCTCTACTTTCACCGGAGTGAGCTTTTTAGC
CACGACGGCGCTTTCTCTAAAGCTTTGGCTTCGTTTTCAGGCAAAACATCGTAAACCGT
TTGACCGGTAAAGTGGTTGGGCATAATATGCGCCAGTTTTTTAAACCAAAAATTGGAAAT
CTGCGTCAGAATCTCCCTTTTGTCTGGAATCGGGTCGTCCAAATCACATCAAACGCGGA
CAGGCGGTGCGAAGCGACCATCAGCATACGTTTATCGTCGATTTTCATATAAATCGCGCAC
30 TTTTCCAAAATAGATCTTTACCAAACCAATCTCACTCATTTGCCCCCCCCCTGAAAATAT
CTTGAAAATACCGACCCGACACCCGACAGGTTTGAATCACAAACCGATATTCTAGCCGAA
GTGCGCGCAAAACAATAACCCATGGCAGCAAAAAGCCAACCCGTCAACCGTCGGCAAAATTT
TGGCACTATAATACCGACAGCAAGTCTACAATACACTTTTACCAAAGGAAATACCTCAT
GAGAATCCTATTGACAGGCTCGAAAAGCCAACTGGCAGCTGCCTGCGCGACCGTCTTCC
35 GGAAGACTGGGAAACCATTGCGACGGATTCCGCATCCCTAGACATTACCGATGCCGATGC
CGTCTGCAACATGGTCAAAGTTTCCAACCCGACGCCATTGTCAACACGGCTGCCTATAC
TGCCGTGACAAGGCGGAAGGCGATGCGGCAGCGGCATTGTCGCTCAATGCTTCCGCCGT
TTACAACCTTGCCTTGGCAGCACATCGCGCCCATGCCGATTTCATCCACATCTCAACCGA
CTATGCTTTTGACGGTAAAGGAAAAGACCTTATCAGGAAAGCGACTTTACCAATCCTTC
40 CAATGTATACGGACAATCCAAAACCGCAGGCGAGCTGCTCGCACTGTCTGCCAATCCCGA
CAGCCTTATCCTGCGGACTTCTTGGCTGTTTAGCGAATACGGGGACAACCTTTATCCGCAC
GATGCTGAACCTTGCGCGGGAACGTTCCCGCTGTCCGCCGTCCACAACCAATCGGCTG
CCCGACCTATGCCGGCGACTTGTCCGCCACCATCATCCGCCTGTTGCAGCACTCCAATCC
CGTTCGCGGCATTTACCACTACGCCGCGCAGCAATCCGTATCCTGGTACGAATTTGCCCA
45 ACATATTTTCAAAGCGGCATCGCAACAGCAGACATCCTTCCCGTTCCCGAATTGACTGC
CGTTTTAGACAAGGAATATCCGACCGCGCCCGCAGGCCGATACAGCATTTTGGACTG
CCGCAAAATCGAAAACGACTTCGGCATCAAAcCGTCAGACTGGCAAAAAGCCCTTGCACA
GGTCGTTTCCAAGCTGCTCTGATGCCGCCCGCCCTCTGTTTCCGCCGTCAAGCACCGCC
TTGGCGGTTTTCTTATATAGTGATTAACAAAAACAGTACGGCGTTGCCTCGCCTTGCC
50 GTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTGTTAATCCACTATA
AAATCTACCGATTACACAAACACATATCATCTTTACACAATCATGCTTCCATCAACAGTA
AAACATGATATGATTGCCAACAATAACATCTCACAATAAATTTCTAATTTTATTGAAA
AAATCAATAAATAAGAATCCTCCCAACCGACAAATAAAATAAAGAAAGGGTTAATATGCA
ACATCGAAGAAGACTAGCAATTTACCAAGCATCCAAACGTGCTTCCCTTACCGGCAGGTC
ATCCGCCCCGCAAAAACGTAAAGAACGTTGATTTGAAAAAATGCCGCTGAAGTCTTGC
TTCAGACGGCATTTTTTTACCCTTCGAGAACTGTTTCAACCTGTCTCATCCAAAAC
AGTGACAGATTTCTCATCTCCCGCCAACAAAACGGGAACCGCTCATTGTATTTTCTT
CCAAAACAGGATTTTCATCCACATCGACCACTTCAGCCCGAACCCGTATTTCATCTGAA
AAGGTTTGAGTTTCGTGCGCATTTTGTGGCACAAGCTGCAATATTCACGAAACATCAAGG
55 TCAATTTTCATCCGCGTTTTCTTATCTGTCAATTTGCACACGCCAAAGCCTTAGACGCAGC
AGAATCATGGTCTATTTGGGAAAAACAATGTTTTCGAGGAAGATGATACTCAAGTCTTG
CCAAAACAGTAAAAATGCCGTCTGAACAGTTCAGACGGCATTTCGAAAACCGTTTTACG

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CTTGAACGTTGATACCCGCCGTACCCTCGGTTGCGCATTGTGCGCCGTCAGAAACGAAG
CGGCAAGCTCCCCGCAGCAGCCGCAGCAGCTCGCTACGCCCAATTGCGACTGCAAATCGC
CCATTGTGGTTCGCGCCGCGGCGATGGTTTCCTTGATTTGATGGTCGGTAACGGCATTGC
AGATGCAGACAAACATTTTGTGCTCCGTGTGTTCTCAAACATATCGTACCGATAGCGGCTT
5 TTATTATCGTATGCGAATATAAATAAAACGGTTTCGATTGCAAGGTCGGTATACACGGT
TTGTCTTGGTAATTTTTATCAAGTTTGCATTTTCGATTGATTCTTATTAAACCAAAGT
AGAAGCCTCAGTTTCGGGAATGGTGTTCCTTCACTACACCCTGCAACCATACGTTGGCAA
CATGGGTATAAATCTGCGTCGTATTCAAATCGGCATGTCCCAACATATCCTGAACCACGC
GCAAATCCAAGCCGTGCCGCACCAGATGCGTGGCAAAGGCGTGGCGCAGGCTGTGCGGGC
10 TGATGTGCCCCGATGCCCTGCTGACTTGCATATTCTTTGACAATCATCCATGCCAACTGAC
GGGAAATGCCCGTCTTTTCTGACTGACAAACAATGCGTCGCAATTCTGCCTTTTCAGCA
GAAGTGGGCGTGCCCTCGTATAATAGCGTTCCACCCAATACGCCGACTCCTGCCCCATCG
GGACCATCCTCTGCTTATCACCTTTCCAGCGCGGTAATACAGCCCTGTCAAATCCA
CATTGCCGAAGTTCAGCCGACCGCTCGCTGACGCGCAAGCCGGTCGCGTACATCAATT
15 CGAGCAAAGCCTTGTCCCGCAAACCGTGCGGCGTGTGCGTATCCGGGGCGGCAAGCAGTC
GGGAAATCTGCTGCTCGGTGATCAGGGTCGGAATATTCTTGTGCTGATTTTGGGCGGTTTCA
GCAAACGGGTGGGATTGTCCGTCCTTATGCCTTCACGCTCCATCCATATATACAGGCGTT
TGCATGCCGATAATGCGCGCGCTTGCAGAACTCCGTTGCTCTCCGTCACATAAACCGCCG
CCGCCAAATCCGCTTCGTCGCACTCTTCAGCATTCTGCCCGATTGGGACAGGCGGCGGG
20 CGATTTTTTCCAAATCGCGCCGTAACCGTTTAAAGTATTCTGACTGAGCCGCTGTCCA
ACCACAGCGTTTCAAGCAGCCTGTGATCAAACCTTCTTCCATACCGTTCCAAACAAATG
CCGTCTGAATCTTCTTCAGACGGCATGGTTTACATTATCGGGAAGCGTTTCCAATACTT
CCTGCGCGTGACCCGCCACTTTGACTTTCCGCCATTATGGGCGATTTCTCCATCCTTAT
TCAAGACGAACGTACTGCGCTCGATACCTAACGACTCTTCCCGTACAGTTCTTCAATT
25 TGATGACATCAAACAGGCGGCACACTGTTTCATCCTTGTGCTCAACAGCTCGAACCGBA
AACCCTGCTTGGCGCAAAATTTCTGATGCGCCTTTACGCCGTGCGGGGAAATACCGACCA
CGGTATAACCCAATGCCTCAAATGTTCCAAACGCGCATTGAAATCCAAGCCTTCCGTGCG
TACAGCCAGCGTACTGTCTTTCGGATAAAAAATACACGACCAAAGGCAGATGTTCTGCCG
AATGAAAAATCCGCACCGCTGCTCGAAGGCAGGGTAAATTATATTTACATCCATAGTCC
30 TACTCCCGATATTCCCATTTATCAAACGCGCACGACGACGACCGCCGCAATTGCCAAAC
CAACCCCGATTCTACCGCCCCAAAGGACAAGGATTCAACCGCCGGAACATCCAAACCGA
CACACGACGGCATGAAAAATATCCATGTCAAACCACAAATATGTTCCGATTTAAAAACA
GAATGTTATAAAACCCAATCCCCAAACACAACAAGACCGCCCGCTACGGGCAGTCTCC
TGTCAGACGACATACTTTACAGATGGCTGTTTTTCAACAAAATAACGCCAATACTCAA
35 AATATGGAATCAAAATGTCCATCCATACTCTGAAACGCCTGCCCTCATCGCTGCTGCTC
GGTCTCTGCCTTTCCCTGCCGTGAGCCACCTTTTGGCGACAACGACATTTTAGGGCAA
TTTTTAGAACAGAATGCTTACCTCCTCCGATCCGATAGAAATATTCGCCGAAAGCAGC
ATACACCCACCAACACCCAAGCCATTACAGGCGGTCTGATTCTCTCCTCACAGTCTGCC
CTGGTCGTCAACAACAAAACCGACAGATACTGTATCAGAAAAACGCCGACAGGATTATG
40 CCCATCGCTCCATTTCAAACCTGATGAGCGGATGGTCGTTTTGGATGCAAACCTGGAC
ATGAACGAAACCGTTACCATTACGCCCCGACGAAATCGACCGCATCAAAGGGACCGGCAGC
CGTCTTGCCATAGGTACGGCACTTACACGCAAAAACTGCTGCACCTGAGCCTGATGAGC
AGCGAAAACCGCGCCACCCATGCATTGGGCAGAACCTACCCCGCGGCATGGGCGCATTT
GTGCGCGCCATGAACCGCAAAGCCCAAGCCTCGGTATGTACGGCAGCCGCTTTTACGAA
45 CCGACCGGACTCAACTTCAAACGTTTCTACCGCCAAAGACCTGAGCCTTATGGTCAAC
GCCGCCGCCAATATCCGCAATCCGCACCAACTCGACTTCCAACACGCTCGGTACAG
ACCAAAAACGGGCAGCAGAACTACAAAACTCCAATGCCCTGGTCAGAGAAGGCATGTGG
AACATCGAATTGCAGAAAACCGGTACATACGCGAAGCAGGCAGGTCTATGGTTGTCAA
GCCAACATTCAAACCAACCGGTACCATCGTATTGCTGAACTCGCCACATCCGCCACA
50 CGCGTCAACGACGCCCGCAAAATCGAATCGTGATGCTGCAGCAACGCTCCTGACATACA
AATGCCCGCGGAAAACCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 295>:

-718-

GNMCW06F gnm_295

CGTTTCTCCAGTGCAGCTATTGATTTAGTTATTAATCGTTCACCTCCGGATATGGCGGA
TGTTTATTGGGCATTAGGTTTGGGGATAGAAGCCGAACGTATCCACAATGAGCAAGCAGT
AAATAATCCGAACGGTAGCGAAAGGGATAATAGAAAGCAGTTAATACTGCTTTAGATAA
5 AGGATTTGATGGATCTTTTAAAGAGAAGCATTTTACTTTTACAACTGTGTGATGATGGA
TGTAACAAAGTTAGGTGTTGAATATACAATAGATGGTTGGCAAAAATTGGAGGTTGGGG
TAATGGGATAATCAATGATTTATATAAAAGTGTTGTAAAAAGAGAGTGGACTGGAATATT
TGAGATCGTTAATAATAACATCAAGCAAGGAAATGAAGCTTAAATGAAATCAATAGC
TGGTCTGGATATGAAAGCTGCTGGGCAAGGAATTTGGAGATGACTTAAATACACCGTGG
10 AATAATCTCACTCAGGCTGCCGAAATAATCTATAATGACATAGTAGACCATACTAGTCAG
GAATAGAAAAGGTGTCAAAGCCATTAAAGAATTGTCTGAAAAAATGAAAAATGCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 296>:

GNMCW14F gnm_296

CCGATCCGACCACGCCCCCGCGATTTCCTTCAAACGGTTTCCGCGTTCCTTCCCAATTAT
CGTACATTAGGTTCTGCTACGGTTTCCGCCCAATGTGGCAACTTGGCGCCCTGTCCGAA
TGTTGCTGCGCGCTTTGCTGAACCTCCTGCCCTTGCTTTCTTCTTTGTATGGGTTAAAC
GGCAAGCCGTTTTTACATAGTCCTTGGCACATCAACTCCGTCACCTCTTCAATGCCGT
CCCTTGATGCGAATAGCAGGGCGCATCCGGTTCTTCCGCTTCTATACAGCCTGCTATAT
20 ATTCAAAGGTTCTTACCTGCCTTACACCGTTATAAATCGGCTTGCTTCGGGTTTTTCGGA
CAATGTCGGAACAAACATATCTGCGGTAAGGTTGCCGTTATTTACGGGCTCGCCTTCTG
TTTTATCCGGAAGTACTGCCTGCTGTTCTGTTGCCGCCGATTCTTGCTGCGGGGTTCT
TCCGTTTTTTCCGTAACGGCTCAACATTTTATAGGACAGGCCGACAAACACGGGAATCA
GCAATAACTATTACGGCAGAGTGTAAT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 297>:

GNMCX02F gnm_297

GGCCAGTGCCAAACAGTGCCAAGCTTGATGCCTGCAGGTGCACTCTAGAGGATCCCCGGC
GACCATTTGGGTTTTGAATAAAGCGGTGCGATTTTGGTGGAGATGGACAGCGCAATCGG
30 GGAAATCATCAGTTCGCCTATCGTGATGGCGAGGACGATCAGTGCGAAAAACGGAAATAG
GAATCGGGGAACCGGAGGAAATAAAGGGGACGAATCCCAAAAACGACGCGCCGGTAACAA
ATACCGCCATAGCGAATTTACGCGGGGTTTTGGGCTGTTTGCGCCCCATTTTGTCCACA
TTGCCGCCATCAGTCCGGAACAGGATGACCCACAGGCTTTGCATAGAATCTTTCCAAG
CGACGGGCACGGTAAACGAACCGATGGTGCGGTTGACGGTTTCGTGCGAAATAGACGGTTG
35 CCACGGTGTAATCTGAAACCAGACGGCCCAACATACAGATGGTCAGGAAAAGCGGGA
TGTAGCGGATGATGTGCCGTTTGTGTCGGAAGTACGCGGGGGTTGGTCAGCAGGCGGG
CGAAATAGGCGATGACGGCAAGGATGACGGTAGATAATAGGATGCCGAGAAATTGTGCA
GGTTGACAAGCCCGGTTTTGATGGCGGTTGCAAGTGCGGCGATGAGGGCGATGCCGACGG
CGGCCGCAAGTTTGCCTGTCTTTTGAAGCGGATGGGGGACGGTGGGGTGGGGCAAGT
40 TTTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 298>:

gnm_298

CCTTCCTCGGCTTCCTCAAAGCGTAGATTTTCATGTGGACGGTCAAACATATCCGACACC
45 AGCAACCCCGTCCGTCCGAACGCAAGCGCAAGGCATCATGCACCGCCAACGCAACGGC

-719-

AGCGTCAAAAACACCAGTCCCGCAAACAGAGCCGCATAAGGATATTTCTCGTTCACAAAC
ATCGCCGTCCCCCTCTTCCGAAGCAGACCGCATTATATAGCGGATTACAAAAATCAGGA
CAAGGCGACGAAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTGAG
CACCTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGCCGTACTGGTTTTGTTA
5 ATCCACTATACCGCGCACTGCCTTGCCGCCCGCCGAAAAGTTGCACAAACAACCGTTCA
TATATATCATGACGAAAAAACGCCGTGTAGCTCAGTCGGTAGAGCAGCGCATTCGTAAC
GCGAAGGTCGGGGGTTTCGATTCCCTTCTCCGGCACCAATACCAAGCACAGACCCTCCCTT
CCTCGGAAGCCTGTGCTTTTTACATTTCCGCTTCAGACGGCACAACCGATATGAACAC
CTCGCAACGCAACCGCCTCGTCAGCCGCTGGCTCAACTCTACGAACGCTACCGCTACCG
10 CCGCCTCATCCACGCCTCCGGCTCGGCGGGGCCGTCTGTTCGCCACCGCCTCCGCCCG
GCTGCTCCACCTCCAACACGGCGAGTGGATAGGGATGACCGTCTTCTGCGACTTGGCAT
GCTCCAATTGCAAGGGGCGATTTACTCCAAGGCGGCGGAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 299>:

15 **gnm_299**

ACTTGCATGCCTGCAGGTCGACTCTAGAGGATCCCGTTACAAAAGATCATTAAAAAATC
TTTCAGGAAAATGAAAAAGAGATCCTGAAAAACATTGATAGAATTGAACGGATTCAAAAG
TTAATTATTGGTCAAGTTATGCATAAGACCAATAATCGAGCAAACCCCAACAAGTTTTT
ATAATTGTTGAAAAATATGCTTCATGAAGTTCGGGAAAGAGATAGCTAAAAAATCAAAT
20 TATTTATCGCTATATAATCCTTAAATTCAAAGCTTTGAATGACCTGCTAACACCCGTAT
CTTCTCAGAACGCCAACTAGAAATCCGTTTCAACTCCTCGGGTACCGAGCTCGAATTCTGT
AATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTCACAATTCCACACAACA
TACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCTAATGAGTGAGCTAACTCACAT
TAATTGCGTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATT
25 AATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATTGGGCGCTCTTCCGCTTCCT
CGCTCACTGACTCGCTGCGCTCGGTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAA
AGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAA
AAGGCCAG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 300>:

GNMCY27F gnm_300

CCAGTTTCGATCTTGATTCTGTGCGATACCGAAGCCCCGCGTCCCGGCCAAAATATCAAGA
TGTTTTTCCGAAAACCGCAAGCCCGGTACGAGCTCGAATTCGTAATCATGGTCATAG
CTGTTTCTGAGTGAAATTGTTATCCGCTCACAATTCACACAACATACGAGCCGGAAGC
35 ATAAAGTGTAAGCCTGGGGTGCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGC
TCACTGCCCGCTTTCCAGTCGGGAAACCTGTCTGTCAGCTGCATTAATGAATCGGCCAA
CGCGCGGGGAGAGGCGGTTTTCGTATTGGGCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 301>:

40 **gnm_301**

GGATGCGGATGCGCTGAACATATTATCAACCGATGCCGAAACCCGAAATCTGGCGCGCGG
GTGTAAAAACCTGATTTTTAACGCCACACCCCGCCGAAGCCGCGCGCTGCTTGGAACGAC
GGTTGCGCAGGTTTCAGGCGGATCGGACGGCGGCAGTGAGGAAGATAGGGGCAATTTTCGG
CGCAACCGTGTTTTAAAGGGGCACAAAACATTGGTTGCCTCACCCGATACGGAAATCTA
45 TGTCACGAAAGCGGCAACGCGGGATTGGCAACGGCGGGCAGTGCGGACGTATTGGGCGG
CATCATCGGCAGTCTGCTCGCACAGGGCGTGCCGGTTTTTGAAGCCGCGCTGCGCGGGCGC

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GTGGCTGCACGGCGCGGCGGCGSATGTCATAAAAGAATCGGCAGGCATTGCGGCAGGGCT
GTTGGCAGGGGAAATCGCTCCGGCGGCAAGGTGGCTGCGCAACCGGATAACTAAAAGTAT
GTAAGAAGATATAGTGGATTAACAAAAACCAGTACATCGTTGCCTCGCCTTAGCTCAAAG
AGAACGATTCTCTAAGGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTATTTGTAAGTGT
5 CTGCGGCTTCGTGCGCTTGTCTGATTTTTGTAAATCCACTATACCATAACAACCACGCGG
GAATTAAGTTTAAATTTGAATAAAAGGTTGCGGTTCTGCAAAATACAGAACCCGAACCTT
GTTCCGATATTGAAACCGGCTGCCGATTTTGGGCGGTGCGGCTTGCAAGTATCAAGATT
CGCATATGCCGTCTGAAGCTCGGAGAGGTTGAGACGGCATATGCTTATTTGGGCTGCTCT
TCAACGAATCTCGGACCTTCAAGATGCCGTTGTGAGAATAGGCGACAGCAGGTTGTAT
10 GCsGCGGTTTTGGAAACCTGATAACCGCGGTGCGGTGAGGCTGTTGGCAATCTGATTGACC
ACTGCGCTGACCAAGCCCCAACAGGCCGCTGTTGCTGTTGTTGCTGCCTTCGCGGATG
CTGGCCGAACCCGACCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 302>:

15 **GNMCZ04F gnm_302**

GACGGCCAGCAACATATACGACGGCCAGTGCCAAGCTTGCATGCCTGCAGGTCGACTCTA
GAGGATCCCCGCGGCAATAAGGGCAAATGTGAGGACGGCGGATCGGTGCGGCTGTGGG
TGAGATTGTGCGGGAGGCTTTGGTTAAAAATACCGATTTAGCGATATGACCCCGGAACA
ATTAGATCTGGAAGTTAAGAAAATTACCGCTATGCCAACTTGCGGCAGGTACAGTTGC
20 AGGCGTAACGGGAGGAGATGTCAATACTGCTGCACAAACCGCACAAAACGCGGTAGAAAA
TAATGCGGTTAAAGCTGTTGTAAGTCTGCAAAAGTGGTTTATAAGGTAGCCAGAAAAGG
ATTAaaaaacgggaaaatcaacgTTAGAGATTTAAACAGACGTTGAAAGACGAAGGTTA
TAATTTAGCCGACAACCTGACCACCTTATTCGACGAACATTGGATTGGAACGATGCCAA
AGCCGTTATTGATATTGTCGTCGGAACAGAGCTGAATCGCGCTAATAAAGGGGAAGCGGC
25 ACAAAGGTGAGGAAGTTTTAGAAAAATCGTCTATAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 303>:

GNMCZ23F gnm_303

CCGCATTGAAAGCGGAGACTTATTTTTGTGCGCCTTACCATTCTTGGGAGAAAGGGCTGA
30 ATGAGAACACCAACGGACTCATCCGGCAATACTTCCCCAAACAAACCGATTCCGTAACA
TCAGTGATCGGGAGATACGCAGGGTTCAAGATGAGTTGAACCACCGACCAAGAAAAACAC
TTGGCTACGAAACGCCAAGTGTATTATTCTTGAATCTGTTCCAACCACTAATACACTAGT
GTTGCACTTGAAATCCGAATCCAAGGCCGTCTGAAACGATAAGGTTTCAGACGGCATTTC
TTTCTTTATAGTGGAGAACTTTGGCATTTTTTTTGGCTCGCTTAGCTTGATGATACGAT
35 TCTCTAAGGTGCTGTAGCACAAAGTGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 304>:

GNMCZ29TR gnm_304

TCTGCGGCTCGACGCCTTGTCTGATTTAAATTTAATTCACATATATTCATATGCTTATT
40 TATCTAATTTTTCCCCGGTAACAAGGTAACAATAAGGGTATCGCTTCCTAGTATAGGTT
TTTTCCAAAAACCCAAAAAACCGCCCTGCATCTTGGACGGTTTCCCCCTTGTTCCCTA
CGTCTTGGCAGTATTCCCCGCAAGCTCTTTTCCGCTTGGCATTCTGATTTGGCGGTGCT
TCAGCTTTATTTTGGCGTATTTTTTCAGAGTATTTTCAGATACCGCAAAAGATATCGT
AAATTTTAGGTTACTTCAATTAGGGCGGATTGGACGGGATTGCACTGTCAGGAAGGGGGA
45 CGGCACGATAACAATCAGCCTGAAATCCTTGTATTGATTGCAATTGGTTGACAGCGTTGG
ATGGGATTGAACAAAAACGCCGTGAAATTTTCAGGCGTTTTTGTCTGTTGGTGCCGACAG

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CGAGATTTGAACTCGCACAGCCTACGGCCACTACCCCTCAAGATAACGTGTCTACCAA
TTCACCATGTCCGCATTTGAAAACTGTTATTTCTGCTGCTGACGAACAAGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 305>:

5 **GNMCZ50F gnm_305**

CGGCCAGTGCCAAGCTTGCATGCCAGTGCGAAGCTTGCATGCCTGCAGGTCGACTCTAGA
GGATCCCCCAGACGCAGGTACAGATTAGGCGGTGTGCCGTAATCGTACGAATGCCGATT
AACCTAAGCAGACATCAGTATTTAGGAAGTGGATGTTTGATGGAGCAAAGGTTGTACGAA
GGGTGGAAGGCAACCTGTGGGTGTTGGTATGGTCGCGCTTGAAAAACGTGTTTTAAGG
10 GACAAATGCCGTCTGAAAATCGGTTTCAGACGGCATTCTTCTGTTTATTAAAGCAAACAG
GAAAAGGCAGCAATATTCTGCAGTCTTCTTATTCACACAAGCGTTTTATAGTTAATTAA
AACAAGATAGTACAATACTCACTTTGAAGGTCTAACCATGGCATACTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 306>:

15 **GNMCZ56F gnm_306**

GACGGCCAGCTAGGAAACGACGGCCAGTGCCAAGCTTGCATGCCTGCAGGTCGACTCTAG
AGGATCCCCGTTCCGTATTGGTTGCAACACCTTTGCCGGCACAGTCGGGAAATGCTGTTG
GATTCACGGCAGCACAAATGAAGTTCGGGGACAGTAAGAATTTCTCAAAATTAGAGAATC
TCAAATACCCGTGCGAAGTTATGGTAACGGTTGAAATGACTTCGACAGGTAAGGGCATGG
20 TTCTTCATTAATTGATTTTCAGGTGGCAGAAAAGCCGAAAGTTGATTTATGAAATTTG
AAGAACGTTTCATAGTTCAAGACTTGGAACGCATGACTTTATTTATCCCGATCCTTTTCG
GTGATGTGGGGTTTACTCAAAATATTAAATCAGCAGGTCAATTTGAAAGCTACGAAGATG
CGTTGAATTCAGGCATAAATGAAATAGGCGGAGGATTCCAGATATTTCAAGTTCTTCGTAA
AATCGGAATAAAAGAAAAACAGGCTCGGCGGGCGGTCTGTCAACCTTTCACAAAGCCCGC
25 ACAAAGGAAAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 307>:

GNMDA71TF gnm_307

CCCCTCCGACCGGGAAGCCTGTGATTTTTATTTCCAGGCGTATATATGCGGGATGAAAT
30 GGTAGTTGGGGCGGAGGGCGCGTTTTGTATGTGCGCGACATCGCCAGTACAGCCGCAA
CATCCAAGCCGGTATTGCCTTTATTGTGCGAAAGGCGGAACACCGCCGCGTCAGGGTGGT
CGCATCGGGCAGCAGGGCGGCAGGTTTCAGACGGCATTGCCTGCGAGGAAAAGCTGGCGGA
ACTGCTGTGCGAATCGGTCGTCCGTATTCGCCGCTGCGTATGCAGCATGAAGACATTCC
CTTCCTGATACAGGGGATTGCCTGCAATGTGGCGGAAAGCCAAAAGATTGCGCCTGCCTC
35 ATTCAGTGAAGAGGCATTGCCGCATTGACCCGTTACGACTGGCCGGGAAATTCGACCA
ACTGCAAAGCGTCGTTGCAACGCTGTTGTTGGAGGCGGACGGACAGGAAATCGGCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 308>:

GNMDB47TR gnm_308

40 CTGGTCGGGGGAAGTCCACTTTGTAAACATTTCAACAGGTAGCCTAAAACCTGAAACTG
GTACAGTTAGTATTAATGGGCATGATATATCAAGTTTCTCCATCCTTTATTAGGGGAT
TGAGCGGGGATTGTTTCGCCAAGATGATGTCCTTTATGCAGGAACTATTGGCGACAATAAGC
CATAACGCGTGATTTACCAACCTGTTACCATTGAGCCGCGGAGATCACGCCGCGTATCG

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TCCGTGAGGAGAACTACGGTGGCCAATAAATTAAGAACTACACCACTCAACTTCGGCCCCG
 CAACACCCTGCGGCGCACGGCGTATTGCGTATGATTTTGGAGCTGCACGGCGAACAAATC
 GTCCGTGCCGACCCGCATATCGGCCTCTTGACCGAGGTACCGAAAACCTGGGGGAAACC
 5 AAAACCTATCTGCAAGCCCTGCCCTATATGGACCGCTTGGACTATGTTTCCATGATGGTC
 AATGAGCAAGCGTATTGTTTGGCAGTAGAAAACTTGTGGTATCGATGTGCCCATCCGC
 GCCCAATACATCCGCGTGATGTTTGGCGAAGTAACGCGCATCCTCAATCACTTGATGGGC
 ATCGGTTGCGATGCCTTCGACATCGGCGCATGACCGCCATTCTTTACGCCTTCGCGGAC
 CGCGAAGAGCTGATGGACCTTGACGAAACCGT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 309>:

GNMDB48TR gnm_309

CTGGTCCGGGGAAGTCCACTTTGTAAACATTTCAACAGGTAGCCTAAAACCTGAAACTG
 GTACAGTTAGTATTAATGGGCATGATATATCAAGTTTCTCCATCCTTTATTAGGGGAT
 TGAGCGGGATTGTTTCGCCAAGATGATGTCCTTTTTCGAGGTTCTATTGGGGAAAATATTT
 15 CATTTTTTGATGAAAGCCCAATATGGAGCTCATTGAACAATGTGCAAAAATGGCACAAA
 TACATGACGATATACTTAAATGCCAATGGGCTATGAGACCTTGATTGGCGATATGGGAA
 ATATCTTATCAGGTGGACAGAGGCTTGAGAGTTATTTTGGAGCTGGACGGCGAACAAATC
 GTCCGTGCCGACCCGCATATCGGCCTCTTGACCGAGGTACCGAAAACCTGGCGGAAACC
 AAAACCTATCTGCAAGCCCTGCCCTATATGGACCGCTTGGACTATGTTTCCATGATGGTC
 20 AATGAGCAGGCGTATTGTTTGGCAGTAGAAAACTTGTGGTATCGATGTGCCCATCCGC
 GCCCAATACATCCGCGTGATGTTTGGCGAAGTAACGCGCATTCCTGTCACTTGATGGGC
 ATCGGTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 310>:

25 gnm_310

TGCCGCTGCTGCTGAAGGGCGCGGACGTGTTCAATACGGGGAATGCGCGTTATGTGCTGA
 CGGCTATGTGATGCCCTTTCGGCGGTGTCGTGCGTCATCGGGCT3GTGGGGCGGTTCA
 GGCTTCAGACGGCATCGGGCAGGGCGGCAAGTCAGGGGGTGCGGGCAAGGCGGACGGAT
 AGGACGCATTTTTTCAGCGGGTGCCTCGAGAAGCAGCCGATGTGTTT3GCAGCCGCAGCTT
 30 GGGGGGTGTAGTGCTAATGGCGGTTTCTTTGCTTTTATAGTGGATTAAACAAAACAGTA
 CTGCGTTGCCTCGCCTTAmCTCAAAGAGAACGATTCTTAAGGTGCTGAAGCACCAGTG
 AATCGGTTCCGTACTATTTGTAAGTGTCTGCGGCTTCGTCGCCTTGTCCTGATTTTGTTA
 ATCCACTATACCATAACAACACGCCGGAATTAAGTTTAAATTTGAATAAAAGGTTTCGGGT
 TCTGCAAAATACAGAACCCGAACCTTGTTCGGATATTGAAACCGGCTGCCCGATTTTGGG
 35 CGGTGCGGCTTGCAAGTATCAAGATTTCGCATATGCCGTCTGAAGCTCGGAGAGGTTCAGA
 CGGCATATGCTTATTTGGGCTGCTCTTCAACGAATCTCGGACCTTCAAGATGCCGTTGT
 GAGAATAGGGCGACAGCAGGTTGTATGCGGCGGTTTTGGAAACCTGATAACCGCGGTCGG
 TCAGGCTGTTGGCAATCTGATTGACCACTGCGCTGACCAAAGCCCCAACAGCCGCTGT
 TGCTGTTGTTGCTGCCTTCGCGGATGCTGGCCGAACCCGACCACAACCTCTTTCCGTTGC
 40 GGGAATCGACAGCCGTGCTTTGGCGGATACGGTCGTCACGCTGTCTAAATTTGATATG
 AAGTGCCGTATTCGGTAACCGTAATGTACAAAACCGCATATTGCCGAAAATCTGATGCA
 GTTTTTCCGGCCGACGGCGTGAATATCGGCGGCATTGGTCAAGCCGTTTTGTTTGAAGG
 TTTCTCCACGACTGCGGCGGGGAAGACGTAATAGCCGGCTTCGGAAGCGGCGCGGCGG
 TCGAAGCCAGTACACCCCATGTTCCGTTGACATCGGGCGATTCTGTCAGCGCGGAACCA
 45 CAAAATTTGAAGCCGTTTGGCTTTCCTTGAATGACGTGTAGTCGAAATCGGGCGCTTTTT
 GAACCTGGCAGGCGAGACAGCGCCAACACGGCGGCAAGCCCTAAAATCAAAGGTTTCATCG
 CTTGCCTCCTTTACCGGTTTTTCATCAGGAAGTCCATAAATACGCCCGATTTCGGGAAACAG
 CCTTTTCTCTTCTCAAACCTGGCGGAACGCGCCCTCTTGTCTCCCGAACGGGAAAGCAG
 CAGTCCAGATGGGCGGTGCGCACCCGGGCGGCATTCAATTTTTTTGTTGCGGCTTCCAC
 50 AAAGTATTTTTCCATCTTTTCGGTCTGCTTGCCCAACGAAGTGTGTCGTTTTTCAAACC

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5 TTCATAGACGGTATCGGGATAGCCGCCGTAATAATACAGGGATTTTGGCCGTTGCCGCC
GCAGCGGGTCAGAGCCAAGACCGCCGCACACAGCGACAAACGGCTCAAGGTTTTCGGATT
CATCATTCTCCTTAACGGTTGGGTTGCCATGCGCCGTTGTCAACAGCCTGAACCAGGCT
GTTGACGGCTTCGCGGATTGCCAAGTCTAAACCTTTGCCGTTCAAAGTCGCATCGTAGCC
10 GGAAGTCCCGCCGAAACCGATGATTTACGGTTGGAAGTGCCTATTCGCCCCGCGCCCTG
TGCGGAATAGACGATTTCCGGAAGTATTGACGTTGACGATATTAGAGCCACTTTTGCATA
GGCGATTTGCGATTTGCCGCGACCCAAAATGCCGAAGAGCTGATGATCGCCGACATCTCT
GCGTCCGAATTTCGGTTACATCGCCGGTAACGACATAATCTGCGCCTTTCAGGTTATGCGC
TTTGCCGGAATGCCGGATTCTGTGTTTTAATGCGTTCAAATTGGTGCGGTTAGTACGTT
15 GAAGCGGTTGGTCTGTTGACGGTGCGTTACTAGAATGGTTTTTGCCTGGCTGCCCAAACG
GTCTTCCCCGTCGGAGAAAATGCCTTTTTTGGAGCTGGAGCGGTTGTGAATGTTCCGAC
GGAAATCGGGGTACGAACACCGTGATATTGCGTATTGTAGGAGGCGACTTTCTCTACCTC
GAGACTGCGTGAGGATTCGGTTCGCACAGCCGGTCAGTGAAACGGCAGCGGCGGCAAGGAC
AACGGCGGTGGAACGGTTTTTCATAAAATTTACCCTAAGGTCAAGTTAAGGAAATAACGG
15 GGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 311>:

GNMDE39F gnm_311

20 CGTATTGCGCACCGTCCCCAAAGTCTCCGGCGTCTGCGAAGCGTCAAAAAAGATATTTCC
GACAGCGGGTCCCGTCTTGACCGGGCGGAGAAAACAATATCGGCTTCGCACAAAGCAAACG
CTTGGCGGAATCGGCGTCAAGTCCGCATAAGCCGCGTGTTCAGACGGCATGGCGTTCAG
ATGCCGTCTGAACACTTTGCCGTGATAAATCCGCATCTTTACTGTCCAATTTCGCGGTTTCG
CAAACCTCCCGCGTTACCAAAACTAGGGTTCGATATGTCAAACCAACAAGCCTTGGTCAT
25 CTTTTCGGGCGGTTCAGGATTCGACCACCTGCCTGATTTCAGGCAATCCAAACCTACGGGCG
CGAAAACGTCCAAGCCATTACTATCCAATACGGGCAACGCATGCCGTGAGCTGGAACGT
GCCCGCTGGATTGCGCAGGATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 312>:

gnm_312

30 GAATATCCAATAAGACAATATGTTCTTTTGAAAAATACTTTGGwtTTTTCGCCGAAAAC
AGGACGGTTCAAGTTGCGGAAATTGTTTGCAATTCTTTAAAAGCAGCGGCGGAGGTCACA
ATGAAATGTCCGAATGGGGATGTGGCGGGCGGCAGAAATCATCAATGCTGCCGACTGCCA
TACTTCTGAAATCTACAAAATGATGCATCGATCAAACAATATACCGCTTTAAAAAAACCG
35 ATGCCGTCTGAAACGCTTTCCGGGTTTCAGACGGCATCAAAGGGTACGGTCAGCGGATG
ATGCCGCGCGCCGATTGTGCGAAAAAGTCTCGGAATACGGCAAGCTCGGCTTGGGTTTCG
GCGCGGCGGAGAATGTCTGCCTTGGCTTCTTCAAACGGAATGCCGCGATGGTAGAGGGTT
TTGTACACGTCTTTGACGGCGGAAATCTGCTCTGCGGTAAAACCGTTGCGGCGCATGCCT
TCGCTGTTGAGCCCCCGCGGTTCCGGCGGGTAGCCCGATGCCATAAAGTAGGGCGGCACG
40 TCTTTGTGTACGCTGCGGCAAACGCGGTCATGGCGTAGTCGCCGATGCGGCAGAATTGG
aAAACAGCGTGTAGCCGCCCAAACGACGTAGTCGCCGATGGTAACGTGTCCGCAAGC
GAGGCGTTGTTGGCGAAAATGGTGTGGTTGCCGATGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 313>:

gnm_313

45 TTATAACATAACAAAATCTTTAACCACACCGACAAAGGCTGCACCATGAAGAAAACATT
GACACTGCTCGCCGTTTCCGCCCTATTTGCCACATCCGCCACGCCACCGCGTCTGGGT

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CGAAACCGCCACACGCACGGCGGCGAATACCTTAAAGCCGACTTGGGCTACGGCGAATT
TCCCGAACTCGAACCCATCGCCAAAGACCGCTGCACATCTTCAGCAAACCGATGCAGCT
GGTTACCGGAAAAAGGCAAGGAAAACATGATTCAACGCGGCACATACAACCTACCACTACCG
AAGCAACCGTCCCCTTAAGGACGGCAGTTACCTCGTCATCGCCGAATATCAGCCTACTTT
5 CTGGTCAAAAAACAAAGCAGGCTGGAAACAGGCGGGCATCAAAGAAATGCCTGACGCAAG
CTATTGCGAACAAACCCGAATGTTTCGGCAAAAACATCGTCAACGTCGGACACGAAAGCGC
GGACACCGCCATCATCACCACCGGTTCGGACAAAACCTTGGAAATCGTCCCCTGGACAA
TCCCGCCAACATTACGTAGGCGAACGCTTCAAAGTCCGCGTTCTGTTCCGTGGCGAACC
GCTGCCCAATGCCACCGTTACCGCCACCTTTGACGGCTTCGACACCAGCGACCGCAGCAA
10 AACGCACAAAACCGAAGCACAGGCTTCTCCGACAGCAGACGACAAAAGGCGAAGTGGA
CATCATCCCCTTGCGCCAAGGCTTCTGGAAAGCCAATGTCGAACACAAAACCGACTTCCC
CGATCAAAGCGTGTGCCAAAAACAGGCGAACTACTCGACTTTAACCTTCCAAATCGGTCA
TTCGCACCATTAATCCCGCCCGCACAAAATGCCGTCTGAAGGCTTCAGACGGCATTTTT
TGTTCAACACGGCGGATACTCA
15 TCATGTAAGACGCGGTTTCGCAAATCGACATCATACTCTTGCGCCAAGTTCCATATATCGC
GGAACGCGCGTCGACGAGCAGCGGTTCTTTCTTGAACCTTCGTCAAACCTCCAATAAT
AGCCTTGCAGGTTTTGCACCCACTCGAAATAGGAAACGACCACGCCGCCGAGTTTCGCCA
GAATATCAGGCACGACCAATACGCCGTTTTGACGCAGGATCACGTCCGCTTCGGGCGTAG
TCGGGCGGTTTCGCGCTTCGACTACGATTTTCGCGCGGACTTTACCGGCGTTTTTCGGAAG
20 TCAGTTGGTTTTTCAGCGCGCAAGGGGCGAGTACGTCCACATCCAAGCCAAAAGTTTCGG
CGATTGGTAATTTCTTTCGCGTAACCGGCTTCGTTGGTGATGAAGCCTTTTTCTTGGAAC
CTTTAAACAAAGCTTCCATATCCAACCGTTTTCTGTTGTAATGGCAACGTCAACAGTAG
AAACCGCAACAACCTTTCGCGCGGATTGATGCGCGTAATAACCTGTGTGGTAACCCACAT
TACCGAAACCTTGAATGGCGTAAGTGGCACCCTTCAGTCCTTGGCCAGTTTTTCCAAAG
25 CTTGGACGGCGGCGAGGTTTCAGCGCGTAACCGGTAGCCTCGGTACGCGCCAAAGAGCCGC
CGAACTCAACCGGTTTTCCGGTAATACGCCCGCGCGGAATGTTTCACCACGTTTTTCAT
AAGCATCCACATCCACGACATAATTTGCGGTTGGTATTACATCGGGGCGGGAATAT
CGATTTTCTCGCAATCAGCGGGGCAATCGCTTCAGCATAAGCGCGGCGATGCGTTCCA
TCTCCGCTTCGGAATAATCGCGCGGATCCAAGGTAATGCCGCTTTGCCGCGCGGTAAG
30 GAATACCCGCAACGCAGCATTGATGGTCATCAAATTGACAGGGCTTTGACTTCGTCCA
AATTCACACTGGGATGGAAGCGCAGCCGCTTTATAGGGGCGACGGCGTTGTTGTGTT
GCGAACGGTAGCCCGTGAAGGTTTTGACCGTGTCTGTCGTCGAGTTTGACGGGAAAATTGA
CTTCCAACACGCGGGTCGGACTCTTCAGGATTTCATAAACGGCCGGATCGGTTTTTCAGCC
GGTCACAGGCGGTTTTACCTGTTTGCAGCGGATTTCAAACGGATTGAGGTTTTCTTTTG
35 CAAGGGCTTCAGACATTTTGCTTCTTTTACAAAGAGAGGTTTCGGAATGGAACAAGCCA
TCAGGTTTCGCACTATAACCAATTTTCAAGCAAAATGTAATAGCGTGTAGTTGGAATCGG
CCCGATTTGATTAATCTATATATGATTTTATTTCCCAAGCCGACGGAATCCGTCTGAAA
AAAGCGGAACACATATCCAAAAGCAAATGTCCAATTAATAAAGATATAAGAATCCTTT
TATTTTTTAAAAATTAATTGGAACGGCGCCGGGATTGTCACACCCTTCCCAGACTCCGTT
40 CCGAAATCCGGAAACACCGCCGGCAAAACCTGTTTCGATTGTTAACAATCCATACATTAG
AAGCCCTGTGCAACGATGTTAAATAAACCTTTTCAACCCGACAGAAAACCGGATTATG
AATGCAGCCATCGAACACGTCCAAGCCGTTCGCTTCGATTGGAACGGCACACTGTGCGAT
TCCGTCCCCGACCTTGCCGCGCGCGCAGAAGCGATGTTGGAACAACCTCGGTATGAAACCG
CTGCCTGCCAAAGTGGTCGAAAGCTATGTGGGCGACGGCATCGGCAAACCTGGTTCACCGC
45 GTCTTCACCAACGACCGCGACCGCAAGCCGATTCCGAACGTGGGAAAAAGGTTTTCGTA
TCTATATGAAATACTACCGCGACATTTGAGCGTCTTACCCGCCCTATCCCCGAAACCG
AAGCCGGGCTGGCATTGCTTAAATCTTTGGGCATCCCGCTCGCCGTTCGTTACCAACAAAA
ACGAAATCCTTGCTCCGAGCTTCTAAAACAACTGGGACTCGCCGACTATTTAGCCTGA
TACTCGGCGGCGAGCAGCTGCCCCGAGAAAAACCCAGCCCCCTGCCGTGCGGCACGCCG
50 CCGAAGTTTTGGGTATCGATGTTGCAACATGGTTATGGTCGGCGACTCGCGCAACGACA
TCATCGCCGCCAAAGCCGCGGCTGCCTGAGCGTCGGCGTTACCTTCGGTTACGGCGATA
TGACGCTGCTCTCGCAAGACGATGCGACCCGCCCGACTGGATTATCGGCTCGCTGCCCG
AAATTTACGAAAACCTGCAACCTCAGAAAAACAAAGAAGAGTAGGCATTCGGACGGCTCC
GGTTTGCGCCGCTATGCCGTCTGAAACCTGCCCCACGCCGAAACCGCCGATGAAACCG
55 CAAAATCCCTACGCGCCGCGCGATGGACATCTCTCGCGCCAGAACTCAGCCGCATC
GGTCTGAAACGCAAACTTGACCGCACGCCGAAAGCGAAGAGGTTGGAAAACGTGTTA
AACGAATTTGCCGAACGCAACTGGCAGTCGGATTGCGCTATGCCGAAGCCTATATCCGC

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AGCAAAAGCCGCAACACGGTTCATTGAGGCTGAAACAGGCTTTGGCGCAACAGGGCATA
GATGAAGAAACCAGCCGCAACCTGCTTCCCGACCGCTCAAGCGAAAACTGGCCGCCATA
GCCGTGTTGCGTAAAAAATTCAAACATCCGGCCCGGACCTTAAAGAAAAACAAAAACAG
GCACGCTTCCTCGCCTATCGCGGTTTTGATGCCGATACCGTTAGACGGCATTGAAACAT
5 GCCTGGGATGACGGCTGGGAGGAAGACTGCTGAAGTGAATCCTTGAATCTTTTTGCATGA
CGGCGTAACCTTACCTCCATTTCCAACTTTCCGATTGAGAATAAAATGTCCGAACAATC
CGAGAAAAATCACAAACCACTTCTTGAAGATGAACGCAAAAACCCGGTTTACCGTATGGG
TCAGGCAGTTGCCGGATTTCATGCTCGTCGTTTGGGCAGGCGTATTGGCACTCGTGTTTTT
CCTAGTCTTCCGTTTTTGGCTTTCCTAAACAAAATGCCGTCTGAAACCTTCAGACGGCAT
10 CGGCAGCCCATTTCGGCAGGCTATCCCATCATAGCTTTTTTTAGCTTGAATCCACTTTC
CCATTCCCTAAAATTTTCCACACCCATTTCAAAATACCCTTTCTTAAACAGGTACACT
ATGACACAACAACGCCAACTGCCTTCGCACGAACCTCATTATGTCCGAACCTGATGATGCCG
GACACCGCCAATTTAGCGGCAACGTACACGGCGGCGAACTCCTGCTCCTGCTCGACCAA
GTGCGCTATTCTGCGCCAGCCGTTACAGCGGCAATTATGCGTTACCCTGTGCGTTGAG
AAAGTCCTGTTTTAAAGAACCCATCCATGTGCGCGACCTGGTTACTTTCTACGCCAGCGTA
15 AACTACACGGGGCGTACCTCTATGGAATCGGCATCCGTGTCGAAGCACAAAACATCCGT
ACGGGAGAAATCCGCCATACCAACAGCTGCTACTTCACCATGGTTGCAGTCAAAGACGGC
AAACCCGTCCCTGTCCCTCCGCTGGAAATCCTGACCGACCGCCAACGCTGCCGCTACGAA
AAAGCCAAAAAACGCGAGACATCAGCCTGCAAGCCTCCGGAGACGTGTCTGCGGCTGC
20 TGACGGCGGACTATGCCGTCTGAAAGACAGGCACATCGCGCCATCCGTTTCCATTGCAAA
CGGATGAAATCAAGCAAATATAGTGGATTAAATTCAAACAGTACGGCGTTGCCTCGCCT
TAGCTCAAAGAGAACGATTCTCTAAGTGCTGAAGCACCAAGTGAATCGGTTCCGTACTA
TCTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTTGTTAATCCACTATACCCAAA
CACAGTCAAACAAATTTATATGCCCCATCCCTTCCGAATAATTTGAAAACACAGCCGCCA
25 AAAACAAAATGCCGTCTGAAAACCTTTCAGACGGCATTTCCAACTTGATTTCAGGCAGA
AAGTCAGAACCGATATAGCTGTTTCGGGTTAACCGGTTTGCCGTTTTGACGCACCTCGAA
ATGAAGCTGCGTTCGGAAGCATCGGTATTGCCATCAAAGCAACCTGCTGACCGCGTTT
GACCTGCTGCCCCTCGCCGACAGCAATTTTGGTTGTGCCCCGATGCGGTGAGGAAAGA
AGAATTGATGCGTATGATGACCAAGTTTCCGTATCCCTCAAACCTGAACCGGCATAAAC
30 CACTTTGCCGTAGCCGCCGCCAAAACGGGCTGTCCCGCATTACCGGCAATATCGACACC
CTTGTTGTTGCCGCCGAAATCGGCAACCACTTTACCTTGCGTCGGACGCTGCCAAACAAT
GCCGCCGACCGAACCGGTGCCGGAAGCGGAAGCGGCAGGAGATTGCGGGGCGGGCGCGGG
AACCGCTTTATTTTCCGCAGCGGGCGCGGCAGGTTGCGGCGCGGACTGCACAGGCGGTTG
CGCGGCGGGTTTTACAGGGGTTTGCACGGCAGCCGGTACGGCGGGCCTGCTTTTACGGC
35 TGCGGTTTTCCGTGCGGCATATCCTGCCGTTTGAATTTAACAATCTGACCGATGCTCAA
CATATTGTCGGTCATGCCGTTCCACGCACGGAATCGTCTTGAGAGATATGGTAGCGTTT
GGAAATGTTGTACACCGTGTGCGCGGCACAAATAGTATGCGTCGCGCGCTTAATGTGAC
GGGTGCGGACTGTACGGGCGGTTGCGCGGCAGCCGGTACGGCGGGCCTGCTTTTACGGC
TGCGGCTTTCCGTGCGGCATATCCTGCCGTTTGAATTTAACAATCTGACCGATGCTCAA
40 CGTATTGTGCGTCATGCCGTTCCACGCACGGAATCGTCTTGAGAGATATGGTAGCGTTT
GGAAATGTTGTACACCGTGTGCGCGGCACAAATAGTATGCGTCGCGCGCTTGATGTGAC
GGGTGCGTAAGAAGGAACGTATGTACCCGAAACGGCAGGTGCAGACGGCGGAACATAAGC
AGGAGGCGTATAAACCGGCGCGCTTTCACCGGCGGCACA

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 314>:

GNMDE70F gnm_314

CCGTCAAAGCCACCGGCGGCAACAGCGGTTGGGCGGCGACGATTTCCACCACCGCCTGT
TCTGCCGCTGCTCGAACAAAACGGACTCTCCCAACTCAACGGACAAGACAGCCAACTCC
TGCTCTCGGTGCTCCGCGGCGGCAAAGGACAATTTACCACGCAACCGAAGCGCGGATT
50 AGGCGACGGTTTCAGACGGGATTGGAATCGACACAAGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 315>:

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GNMDF12F gnm_315

ATGACGACGCAGGCTTCGTCTATCATACAGGTTTCGTGGATTTCGGGCGTGCGGTTTTGG
 AAAGTTCGGATTGCGTTCATTTTTCCTCCTTCGGTAAGGTATATATGTGTTAAAGGATTTA
 TTAAATATCCCCCTGATTGCTTTTAAATCCTGCCTGTTATATCGACCCCGAGTAATGT
 5 TATTATCGGGAATATCAGCTTATATATCATTTTATTGGACTTTTACAGCATAAACCTTAA
 ATTATACGCCCTTCTTTTATATCAGCATCACACTCTATATTTTTCGTCAATTATATAA
 AAGCAAAACGAGATATTTCGTAGGATAGATAAGAATAAAGATAACTC3ATATATCCCTATT
 ATTTTCCATTTCCGCATTTTTTTCCAAATATA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 316>:

gnm_316

CAACAAAGCAATCTAGAAACCCGTCATTCCGGAGCAGGCGGGAATCCAGACCTCCGACGC
 GGCGGGAATCTATCGGAAATGACTGAAACCCCGAGATTCTAGATTTCACTTCCGTGGGAA
 TGACGTGGTGCAGGTTTCCGTATGGATGGATTTCGTCAATTCGAGCA3GCGGGAATCCAGA
 15 CCCCCGACGCGGCGGGAATCTATCGGAAATGACTGAAACCCCGCGTTCCTAGATTCyCACT
 TCCGTGGGAATGACGTGGTGCAGGTTTCCGTATGGATGGATTTCGTCAATTCGACAAACAC
 CGTAATCTCGAAATTCGTCAATTCGCGCAGGCGGGAATCCAGCCCCCTGACGCGGCGGGA
 ATCTATCGGAAATGACTGAAACCCCGAGATTCTAGATTTCACTTCCGTGGGAATGACGT
 GGTGCAGGTTTCCGTATGGATGGATTTCGTCAATTCGCGCgCAGGCGGGAATCCAGACCCCTG
 20 ACGCGGCGGGAATCTATCGGAAATGACTGAAACCCCGCGTTCCTAGACTCCACTTCnCGTG
 GGAATGACGGTTCAGTTGCGCTCCGACAACACCGTAATCTCAAAACCCGTCCGACAACAC
 CGCAATCTTGAAACCCGGGATTCCGCAyAGGCGGGAATTCAGACCTGTCCGCACAGAAAC
 TTATCGGATAAAACAGTTGCCCAAACCACGCGTTCTATAGTGGATTAAATTCAAACCAG
 TACGGAATTG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 317>:

gnm_317

GGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGGCGGAGCC
 TATGAAAAACGCCAGCAACGCGGCCTTTTACGGTTCCTGGCCTTTTGCTGGCCTTTTG
 30 CTCACATGTTCTTTCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCCTTTG
 AGTGAGCTGATACCGCTCGCCGAGCCGAACGACCGAGCGCAGCG23TCAGTGAGCGAGG
 AAGCGGAAGAGCGCCCAATACGCAAACCGCTCTCCCCGCGCGTTGGCCGATTCATTAAT
 GCAGCTGGCAGCAGGTTTCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATG
 TGAGTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGT
 35 TGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACG
 CCAAGCTCGAAATTAACCCCTCACTAAAGGGAACAAAAGCTGGAGCTCCACCGCGGTGGCG
 GCCGCTCTAGAACTAGTGGATCCCCCGGGCTGCAGGAATTCGATATCAAGCTTATCGATA
 CCGTCGACCTCGAGGGGGGGCCCGGTACCCAATTCGCCCTATAGTGAGTCGTATTACAAT
 TCACTGGCCGTCGTTTTACAACGTCGTGACTGGGAAAACCTGGCGTTACCCAACCTAAT
 40 CGCCTTGACAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCGAT
 CGCCCTTCCCAACAGTTGCGCAGCCTGAATGGCGAATGGCAAATTGTAAGCGTTAATATT
 TTGTTAAATTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAkGCCGAA
 ATCGGCATAATCCCTTATAAATCAAAAGAATAkACCGrKATAkGGTTGAGTGTGTTCCA
 GTTTGGAACAAGAGTCCACTATTAAGAACGTGGACTCCAACGTC2AAGGGCGAAAAACC
 45 GTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCTAATCAAGTTTTTTGGGGTCG
 AGGTGCCGTAAAGCACTAAATCGGAACCTAAAGGGAGCCCCGAATTAGAGCTTGACGG
 GGAAAGCCGGCGAACGTGGCGAGAAAGGAAGGGAAGAGCGAAAGGAGCGGGCGCTAGG
 GCGCTGGCAAGTGTAGCGGTCAcGCTGCGCGTAACCACCACACCCGCCGCGTTAATGCG
 CCGTACAGGGCGCGT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 318>:

GNMDI14TR gnm_318

5 ACCTGCCTATGATTTGCTCTGCCACTTGGGCTTTGCCGTCAAAATGCGTGTGGGTGTGGT
TGTGATTTGTTTGTCCAATTCGTCAATCAGCCGGTCAAAATGGGCAATCAGTTGTTGA
CGCTTTCGACTTGCCTTTCATGAACCTAATGCAGACGGTTTTCTCGGCAGTCCGCATAT
CCACCAGTTGGTTGCGGCGGTTAACCAAGGCTTCCAACACTTCTTCCACTTCGGTGGGCA
GGTGGAAAGGGCATTGTTTGCGAATCTGCCGTGCGTAACGTCATCTAGAACTTTAATGGCG
10 GTAAGCTAGAGCATGTTTCGAGTGGGAAGTACCGTTTTTACCGGTGAAACCTTGAACCAA
TACTTTAGTGTCTTTTATTAATCAATACGCTCATTCTTTTCTCCTTAGGCGTTTACGGCTG
CAACAATTTTTTTCGGCTGCGTCATTACAGCCGCTCTGCAGAAGTCAGTTTCAGACCTGATT
CGTTCAGGATTTTTCGCGCCGAGTTCGGCGTTGTTGCCTTCCAAACGAACAACGACAGGAA
CGTTGACGTTGATTTT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 319>:

gnm_319

CCGCTTTTGAAAAGACGTTTTTAAATGCAGATATCCCCGTCTGCTGGACTTTTGGGCTC
CGTGGTGC GGCCCTGCAAAATGATTGCCCCGATTTTGGACGACATTGCCGCCGAATTTG
AAGGCCGTCTGAAAGTGGTCAAAATCAACATCGACGACAACGAAGCCACCCGCTCCCGTT
20 TCGGCGTGCGCGGCATTCCGACCCTGATGGTGTCAAAAACGGCGAAGTCGTGCCACCA
AAGTCGGCGCATTTGGCAAAAGGTCAGCTGACCGCCTTTGTGCAAGCCTCTATCGCCTGAT
AAAGCGCAATCGAAAAAGCCGCCGGAAGATTCGGCGGCTTTTTCGCACCCCTAAGATTT
GTGGCGGATTTCCAGCACCTATGGATTTTTTTGTTGCGGAAATCTTCGGGAACGGATTG
TTTGGAAATGTCTTTGACGGCGTATTGTTCCGATACCAAGTCGTCTAAGACGAAGCTGCG
25 CAGGTTGTTGGAAGTACAAAATGCCGTCTGAAGCGAGCAGCTTACC CGCGCGTCAAT
CAGCTTTTTTGTGGTTCGCGCTGGATGTCGAGGATGTCGGACATTTTCTTGCTGTTGAAAA
ACTGGGCGGGTCCATCACAATGAGGTGCAACCGCCTGCCTTCCCCATATGCCGTCTGAAG
ATATTGGAACACGTCGGCGCGGACGATTTTGTGTGCTTCCGTATCGATGCCGTTCAATTC
AAAATTGCGTTTCGCCCAATCAAGATATGTGTTGGACAAATCGACGGTTTCGCTGGATGC
30 CGCGCCGCGGTTCGCGCATAGACGGTGAAGTCGCCGTGTAGGAAAACAGGTTTAAAAA
ACGTTTTGCCCGCGCGCTTTTCGCCGACTTTTTTGGCGGTGTTTCGATGATCAAAAAAAG
CCCCGTATCCAAATACTTATCAAGGTTGACCCAAAACCTTGCGGCCGTTTTTCGGTGATGAC
GAAATCGTCGCCCGCCTTGCCGTTTTTCTCGTACTGCTGCAAACCTTTTTGGCGTTTCGCG
GCGTTTGAGGCGGATTTGTTTCGGGCGCAAAACCGGTAACGAAAGCGACGGCTTCCAAGAC
35 TTCGGCAAGCCACGCTTCGTATTCTTCGGGCCGATCAGCCAGCCGGTATCGTATTCCTG
AAGGTGGATTTCGATCGCCGTAACATCGGCGGCAAGGGGAATTGGGGGATGTCGCGGTC
GTAATGCGCCAGGCTTCGATGCCGTTGCGTTTCGCCATTTTATAAGGTGTTTGATGTT
TTTGCCCAAGCGGTTGGCAAACGGTGTGATGTCGGTCATTGGTTTTAGGCGGAATAAAGT
GGAAAACGGCAATTTTACTGTAATTAACGCCCGATTGCTTGACCGTTTCGGGCAAACCTT
40 ATACCATCCGTCGCTTATCTTGTACATACGAAGCCATCGCCTTCCAACCTAAACCGCCCTT
ACGGGCGCGTTTTCTTCTGTTGCTTTGATTTTGCAAAGCATATCTGTGCAGGTTGCCGTCG
ATGTAAACCACAAGCAAGCCGCTTGCGACAACCTGTAACCTTCACATCCCCGTATCGTT
ACCCTTCCCTGCTTCAGGCCGCTGTAACCTTTCGGACGCGGGCGTTGTTGTCTTCCAAGG
ATAGCCATGTCTATTAAATTTGCCGATTGAACTTGATAAAAAACATTTGTCCGCGGTC
45 AGCAGCGAGGGTTACGAAAGCCCGACGCCGATTACGGCGCAAGCCATTCCGTTTGCTTTG
GAAGGCCGCGACATCATGGCTTCGGCGCAAACCGGCTCCGGCAAACCGCCGCTTTCTG
TTACCGACTTTGCAAAAACCTGACCAAACGAGCGAAAAACCGGGCAAAGCCCGCGTGCT
TTGGTGTGACCCCGACCCGCGAAGTGGCGGCTCAAGTCGAGAAAAACGCGCTGGCGTAT
GCCAAAAATATGCGTTGGTTCCGCACCGTCAGCATCGTCGGCGGCGCGTCTTTCGGCTAC
50 CAAACCGTGCCCTGAGCAAACCGGTCGATCTGATTGTCGCCACGCCGGGCGCTCTGATG

-728-

5 GACCTGATGCAAAGCGGCAAAGTTGATTTTGAACGTTTGGAAAGTGCTGATTTTGGACGAA
GCCGACCGTATGTTGGATATGGGCTTTATCGACGACATCGAAACCATCGTGGAAGCAACG
CCGAGCGACCGTCAGACTTTGTTGTTCTCCGCCACTTGGGACGGCGGGTCGGCAAACG
10 GCGCGCAAACGACCAAGACCCTGAAATCATCGAAGTCGAACGCGTGGACGATCAAGGC
AAAATCGAAGAACTGCTGTACTGCGACGATATGCGCCACAAAAACCGCCTGCTCGAT
CATATCTTGC GCGATGCCAATATCGATCAATGCGTGATTTTACGTCACCAAAGCCATG
ACCGAAGTCATTGCGGATGAACGTACGAAAAAGGTTTCGCCGCAAACGCTGCACGGC
GATATGCCGCAAGGCTGGCGCAACCGCACGCTGATGGATTTGCGTAAAGGCCGCTGCAAA
ATTTTGGTTGCCACCGATGTGCGCGACGCGGTATCGACGTACCGACCATTACCCACGTT
15 ATCAACTACGACCTGCCGAAACAGGCGGAAGACTACGTCCACCGCATCGGGCGCACCGGC
CGCGCAGGCGCACGGGTATTGCGATTACGTTTGC GGAAGTGAACGAATACGTCAAAGTC
CACAAAAATCGAAAAATACATTAACCGAAAACTGCCGAACTGACCATCGAAGGCATGGAA
CCGACCCGCAACGCAAATCCGACGGCGGCAAGCCGAAAGGCAAAGGCGGCTGGGGCGAT
CGTAAATCCGGCGGTTGGCGCGGCGATCATAAACCGAGCAAAGAAGGCTTCGGCGGCAAA
20 ACGCGCGGCGAAGGTTTCAAGAAAGAAGGCTTTAAGAGAGACGGTTTCAAAAAACCGGC
GAAGGCTTCAAAGGCAAACGCAAAGCCGCGGATTCTTTTGCAGGCAAAGGCGAACGCCGT
TACAAAGACCGCTAAGCCCCAACCTGCCGCATAAACCAATGCCGTCTGAAACCGATTTCG
AGTTTCAGACGGCATTTTTGCAATGTTTCAGCACCGCCCGGCTTTGATACCCAAAGGATT
AGGCTGTAATAAAACCCTTTTCGCTTTGGCAACGATTGAAAATTTCCGTAAATTCAAA
25 TATCTGATTCTCTTCCTGCACGGGAATGACACGGAAGGGTTTCAGATGCAGGGTGGGCAT
TCCTGCCCAACCAATCCCGCCCTTGCAACGGTGGGCAAGAATGCTCGCCCTACGGCTTGA
CTGTTTCGATATGATGCCGTCTGAAAACCCAACGGCGGCATGACAATGCCACCCTGCCAAC
GCACGTAAATCAGAATTGCCATCCCGACATCAAACGCTTGGAACAAAATGCCGTCTGAA
AATCAAACGGCAACATAACAATGTCCCTAACAAATGCAAAAATGCCGTCTGAAAGCTCTT
30 CAGACGGCATTGGCGCGCGCGGTTTACCGCCTCCTGCCGAAACCGCGCATAGCGGGGCGG
CGGTAATTGGCGGGCGGGCGGTTGTGCGGCGGTAACGCTGCGCCTGCGCCGCTGTTGT
TTTGACGGAGGCTGCGCGTGTTCAAATCCCTGCTGGTGC GCGCATTGGGGCGTGCGGAC
TGATGGTAGGCTGCACGCGCGCGCGGGGACGGGACTGTCTGGTTGCCTGCCCGTGTG
AATTTGTTTGCAGCGCGTTGCCGATAAACGCGCCTGCCGCGCGCGGACCGAGGCTTTGC
35 AGCAGCCAGCTTCCTGTGATTGGTCGTAATATACTGCTGCCCGCTTTTACCGGTAACG
GGTTGCCCGTTGTTGCCGTTTGCTGTGCTTCGGCAGGAATGGTGTCTTTGACTGCTTCG
GGAGTCAGTTGGTAAACCGTATCGTCTGCCTGCTGTGCGAGCTGCTGTTGCAGGGCTTCA
ATCTGTTTCTGCTGCTGTTTCGAGCCG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 320>:

GNMDI61TF gnm_320

CACCTGCACGCACAATTTCGTGTTTCCAACGTTTTTGCCGATAAAGGGCATGATTTTCGGAGT
GTTCCGCCGCGATTCCACATCGCAATTCCTGCAGACCGGCGGATTCTTCAATGAAACGAA
CGCAACGGGTGCA

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 321>:

GNMDI91TR gnm_321

TCGCGCACGATGATGGGGGCGAGTTCTACGGAGATAGGGTTGCCTTCGTAGAACGTTACT
ATCGCATTGGTCGTCCATGCCGTCAACGATGAAGTTCAACGCGATCGGGACGCTTAAAGA
45 CGGTTTTGGCATCGCCGTCGTCCCGCTCCGATTCTGGAGTTGGGCAACGGTTCGGGTCT
GAGCATCAACCTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 322>:

-729-

gnm_322

CAAAAACGTACGTACAGCTAGTTTGCAGACCCGATGTACGTCTTTATGGACGAAGAATT
CAACCAATATGAAATCGAAGTTGACAACATTGGCGATCATTTTAATTTATCGGGTATAGA
CTATTTCCGGCGAGGACGAAGATATAGATTTCCACGATTGAATACATGGAAGCCAAGTACG
5 TCTATCAACACTATATTAACACAGCCTTTTATTTGAGGTTTGGGGTAATTTTAAAC
CGTCATTCTTACGAAAACAGAAAATCAAAAACAGAAATCTCAAATCCCGTCATTCCyGCG
CAGGyGAGAATCTAGACATTCAATGCTAAGGCAATTTCTCGGAAATGACTGAAACTCAAA
AAACTGGATTCCCACTTTTCGTGGGAATGACGGAATGTAGGTTTCGTGCGAATGACGTGGTG
CAGGTTTCCGTATGGATGGATTTCGTCAATCCCGCGCAGGCGGGAATCTAGACATTCAATG
10 CTAAGGCAATTTATCGGGAATGACTGAAACTCAAAAACTGGATTCCCACTTTTCGTGGGA
ATGACGCGATTAGAGTTTCAAATTTATTCTAAATAGCTGAAACTCAACGCACTGGATTTC
CCGCTGCGCGGAATGACGAAGTGGAAGTTACCCGAAACTTAAACAAGCGAAACCGAA
CGAACTGGATTCCCACTTTTCGTGGGAATGACGGAATGCAGGTTTCGTGGGAATGACGGAAT
GCAGGTTTCGTGGGAATGACGG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 323>:

GNMDI95TR gnm_323

TCCACACAACGTCAATAATTCCAACACAAAATACGCCAACCGCATTGGTTTGACACGCCA
GCAACCGCTTTTGGCTTCACAACAGTGATATTGTGTTGGCTTTTCCGTTTAAAGATTGTG
20 TGTTAAATGGCGGACAAAGCACCAGGAAGGCGAAGAAATTTATTTTAAACGCAATAACA
GCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGACA
GTCAACCAGCCAGACAGCCACTTATAACAAGGCGAAGACAGCAAAAACTGCCGAAATG
AGCGAAGGCGACAAATTGCCCGTGGACAACTCTACGGCGAACAACTTTACCACTCCG
CCGCCACGCTACAACGAAGCCACGCTGGTTAAAGCCC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 324>:

gnm_324

CGCGATAAAGAGCACGTTCCGGTTTCGATTTACTTAGTTAACGGTATCAAATTACAAGGT
CAGGTTGAGTCTTTTCGATCAATACGTTGTTCTCCTGAGAAACACTTCCGTCACCCAAATG
30 GTTTACAAACACGCCATTTCCACCATCGTACCGGCACGCTCCGTCAACCTACAACATGAA
AACAGACCCCCAAGCCGCACCGACTTCGACCCTCGTCCAAGTGGAAACCGTCCAGCAGCCT
GCCGAATAATCCGCACGAAGCATGACGTGTCATATCTTTCAATACCTTACCGGACAACGG
TAAGGTATTTTTATTTTCAGACAGCATTTAAAAATGTTATTGCAAAACATCCTTCCATTC
GCCCATTGCCTTTTGGCGAAGGCACTTCCCGAAGGTGGCAATGCTTTGGACGGCACC GCC
35 GGCAACGGACACGACACCTTTTCCCTCGCACAAACCGCAGGCATCCGGGGGAAAGTGTGG
GCATTGACATCCAGCCGCAAGCCCTGAACAACACCCGATGCCGTCTGCAGGAAGCAGGT
TACAGCAATGTACGGCTCATCTTGGACGGACATGAAAACCTGAAGCAATATATTCCAAAG
CCGCTGGATGCAGCCATTTTCAATTTCCGGCTGGCTGCCCGGGCGGGGACAAAAGCCTTACC
ACCCGCACGGAACAGCATTGCCGCCCTTTCTGCCACCTTATCCCTACTGAAAGAAAAAC
40 GGTATGCTTATTGCCGTCTCTATCCGGGACACGAAAACGGCAACAGGAGGCAGAAAGCA
ATCGAACAATGGGCAAAAACCTGCCTCAAGAACAGTTTGCCGTTTTCGCTTACGGCTTT
ACCAACCGGAAAAACAGCCACCCCTATCTTTTGGTATTTGAAAAACTGCGTCAAAAATAA
CTGTTTGGCGGTAAAATAAGC

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 325>:

-730-

gnm_325

TTGGAAGCCTTCTGCAAAGGTCAGGACACGCTTGCGGGCATTGCTGAAGACGAGCCGACC
GGATGCCGGTCGGTCGTGCTGCTGAACAATACCTGTGTCGCGCTGGCATACCCGAAAGCC
TTGGGCGCGCTGCGTGTGCGACAACGCCGTCGTGATTACTTCTCCGCGTTTTACGAGCGTT
5 CATCAGGTCGCACTCAACCAGTGCATCAAAAAATACGGCGTACAGGGACAATGCGGCTTG
GAAACAGTGTATTGCACATCTTCTTCTTATTACGGCGGAAGTGTGCGCTCTTTGATTCAA
AATCTCAAATAAAACGGAAAATGCCGTCTGAAAGATGTTAGACGGCATTCTATATCGA
CGGTACAGGATTCTTTTCGGATCGGGCAGCAGGCTGTTCAACATAATGCAAGTACGGCGCA
CAAGCCCACGCCGGCAAAGCTGAAGCTGCCCAATTTGAGCGTCATGCCGCCGATGCCCGT
10 GGTACGTACCGAGCTGACGATGACCAGGTTTTTCGGCAGCATCAAATCGACTTTGGCATC
AATCAGCGTTTTTACGCCCAAAGAAGCAATCGTGCCGAACAGCAGCAGCATAATGCCGCC
CATTACTGGCATCGGAATGGAAGCCAAAAACGCATTGAATTTGCCGAAAACGCCATGCA
GACGGCAAACACGCCGCCCAAGTCATGATGACGGGTTGCTGTTTTTGTTAATCATCAC
CGCACCCGTTACTTTCGCCGTAGGTCTGTAACGGCGGGGCCCGATCAGACCCGCAACGCA
15 TAGCCCCAAACCGTCGCTGCAAGGGTTTTGTCCAAGCCGGGTCTTTCGTATAGTCTTT
CCCCGTACATTGCCGATTGCCATGATGCCGCCGATGTGTTTCGATGGCGGGGGCGACGGC
AACGGGCAGCATAAACAGTGCAGCTGCCAGTTGATCTGAGGCGTTTCAAATGGGGAAC
GGCGAACAGGGGCGCTGTGCAATGCTTGCCGTGTCCACCAGTCCCATCAGCAGTGCCAA
AACATAACCCGAAGCGACACCGATCAAGATGGGAATCAGCTTCATCATCTGCTGCCGAA
20 AACCGATACGATGGCGGTAACGGCAAAGGTAAAGCCGGAAAGATCAGCGAATCGGTATAG
TCGATGACCTGTTTGGCGTCCGCTGACnCATTTGCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 326>:

gnm_326

AAAAATTGGGTGGTTTTACCAAATTTAAGGGGAATTTTAACAAATTATTAACGCTTAC
AATTTGCCATTGCGCATTTCAGGCTGCCCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTC
TTCGCTATTACGCCAGCTGGCGAAAGGGGGATGTGCTGCAAGGCGATTAAAGTTGGGTAAC
GCCAGGGTTTTCCAGTCACGACGTTGTAAAACGACGCCAGTGAATTGTAATACGACTC
ACTATAGGGCGAATTGGGTACCGGGCCCCCCTmGAGGTGCGACGGTATCGATAAGCTTGA
30 TATCGAATTCCTGCAGCCCGGGGATCCACTAGTTsTAGAGCGGCCGCCACCGCGGTGGA
GCTACCAGCTTTTGATTACCTTTATAGTGACGGGTTAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 327>:

gnm_327

TTGAAGAAATATGCAGGGGAGGGTATATGCGGATTTTTACTTTTCAGCTTAATGTGTmTCA
AATCGGGTGTGGGGTATGTATAGTGGATTAAATTTAAACAGTACGGCGTTGCCTCGCCT
TGCCGTACTATTGTACTGTCTGCGGCTTCGTGCGcCTTGTCCTGATTTyTGTTAATCCAC
TATAAAAAGCCGCATCGTGAAAAGATGCGGCTTCAGGTATCGGTTGGATTATTCTTCAGA
ACCGGTGTAAAGACGGATGCTGACAGTTTTACGGTTCAGCGCGCCTTTGGTTTTGAATTC
40 GACATAACCGTCAACTTTGGCGAACAAAGTGTGGTCTTTGCCCATACCTACGTTGTGCGC
TGCGTGGAATTTGGTACCGCGTTGGCGTACGATGATGGAACCTGCGGGAATCAGCTCGTT
GCCGTAGGCTTTAACGCCCAAGCGTTTGGCTTCTGAATCGCGACCGTTGCGGGTGCTGCC
GCCTGCTTTTTTACTTGCCATTTGTAATGCTCCTAAGTTTTAAGGTTAGGCGATTGCCAC
GATTTTCGATTTGGGTGAAATTTGGCGGTGGCCTTGGCGTTTTTGGTAGTGTTGCGGCG
45 GCGCATTTTGAAGATGCGGACTTTTTCGCCACGACCGTGTGCCACTACTTTAGCCGTTAC
TTTTGCACCTTCGATAAAAGGTGCGCCAACTTTTACAGATTGCGCGTCAGCAATCATCAA
AACTTCGGTCAGTTCGATTTGGCTGTGAGTTCGGCTGGTATCTGTTCTACTTTCAATTT
TTCGCCGACGGAACTTTATACTGTTTGCCGCCGGTTTTTACGACCGGTACATACTCAA
CTCCATAAGGGTTATGGTTAATATCCnGGG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 328>:

gnm_328

5 GTAAGATTACCGTCTGGAAGACTGGGGTCGCCGCCAGCTGGCTTACCCGATTAACAAAA
TCCATAAAGCCCATACGTTTTGATGAACATCGAAACCACTCCCGAAGTGGTTGAAGAGC
TGGAAACCGCATTCGCTTCAATGATGCArTATTGCGTCATCTGACCATCAAAACCAAAC
ACGCCGTTACCGAAGCATCCCTATGTTGGGTGGTGAAGAGGCTAAGAACCTGTTGAGCG
GTGCGTCTGAAGAAGCGGTGCGCCCAATAATTGGGATTCAATAATCTTGTTTCGCTTGCCG
CGTTAATTGAAAAGGTTTTCCCTATTTCGATATACGCCGTGCCGGAATCCCTGTTTTAGATA
10 TATTTTTAAAGCACGAATCGTGGCAGGAGGAAAACGGGCAGCAATGCCTTGTTCCAATTGG
AAATTCGGGCACGGATTTTAGGCAGGCAGGCGGAAGAGTGGCAGTATCGGCAAGGTGTAT
ATGTTTCACGTCGAAGGTTTTTTAGCTCAAAAAAGCAGACGTTCCCTTATGCCGATGCTCA
GGATACAAAATATTCAAGAATATAAAGGTTAAACGACAATGGCTCGTCAATCATTCAAAC
GTAGAAAATTCTGCCGTTTCACGGCTGAAAAATCCAAGAAGTCGATTACAAACAAGTTG
15 ATTTGCTGAAGACTTCATCTCCGAAAACGGTAAATCATTCTGCACGCATCACAGGAA
CGAAGGCATTCTACCAACGCCAATTGGCTGTTGCCGTAAAACGCGCACGCTTCTTGGCTC
TGCTGCCTTACACCGACCAACACAAATAATTTTGGAGATTGAATCATGCAAATTATTCTG
TTAGAAAAAATCGGCGGTCTGGGCACTTGGGCGACATCGTAACCGTAAAAACGGCTAC
GCCCCGAACTTTCTAATTCCCGCAGGTAAGGCAAAACGTGCGACCGAAGCGAATATGAAA
20 GAGTTTGAAGCAGCCGCGCAGAATGGAAGCCAAACAGGCTGAAATTTTGGCAGATGCC
CGAGTCCGTCAGGAAAAATTGGACGGTCAAACCGTTACCGTTGCTCAAAAAGCTGGTGTG
GACGGTCGCCGTTCGGTTCCGTTACCAATGCCGACATTGCTGCTGCAATCGTTGCTGCC
GGCATCGAAGCCGTGAAAGCAAATGTACGTCTGCCGAACGGTCCTCTGAAAGCCGTTGGC
GAGTACGAATGGAAGTGGCTTTGCA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 329>:

GNMDN42TR gnm_329

GGAGCGATGTAGCCCCATTCCGGCGAGGACGGTCGTCATACCGGCGTTGCGCCCCGCCTGT
ATATCGCGTTCCGCGTCGCCGACGTAGAGTGTGTGTGCGGGTCGGCGTGGATTTGTCCG
30 CACGCATACAGCATGGGTTTGACGCTGGGCTTGGGCTCGCCGACGGTGTGCGCGCTGACG
ACGACGGCGGGTGGGATGATGAAGCCGAGTTTGGGGACGAGTTTGTCCGTGAAGCGCATG
GGTTTGTGTGGTATGATGCCCCATTTGATGCCGCGTTTTCCGAGTTCGGCGATGAGTTCCG
TTTACGCCGTCGAAGAGGGTGGTGTCTTGGGCGTAGCGGCTGTCGTAATCCGCAAGGGAA
TCCGGTGCGCAATCGGGCATAGTCGGGATGGTCGGGGGTGATGCCGCGCCGAGCTTGAT
35 CAGTCTGCCGCGCCGTGGCTGGCTTGGGTGCGGATTCGTCATGCTTTTTGCAGGTAG
TCCGTGGCGGGCGAGCAAGGTGTTGAGTGCGCCGCCGAGGTCTAAGGCGGTGTGCGCGAG
CGTGCCATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 330>:

40 gnm_330

ACGAGCCGAGCAACCATTTGnGATATCGACGCGATGAATCCGGCGGCAAGGTTTGCTGA
TAGCAGACGAACACCAGCCGACATCAAGCTGTCCGCTTGAGGCGAGTCCGCGCGAATAG
CTGTAGGCGCGCGGAAGAGCGGTGTTTTTGGAGGAATTCGGGATCGCGCGGATTCCGCC
AGGCGTATATGGCTGTCTTTGGGCGTGATATCACCTCGGGGTCTTTGGCAAAATCCGGT
45 TGGTCGGCTTCTTTTTTGGCGTCCATCGGCGCACCGCTGTATTTGCGCCGCCGAAAATG
TCGGTTTGCTCTTGAAGCGGCGTCTGTCCCAAACTCGACAAAGTGGCGGATAAGGCGG
ACTGCTGATAGCTGCCGTTTTTCGCCCACTCCGGTTTCGTCGAGGCTGTTGGCGGCCACC

-732-

CCCGTCCACAAAACCTCGTCGGCAGTTTTGGGATCGGAACTTTGGGGTTGCCCGTGCCG
 TCCCTGAAGCCCAACAGGTTGCGCGCCGCCATCGCGCCGGTTTCGGATTTGGGCTGCCAC
 CCGTCGATACTCCAACGGATAACGGCGGTTTGGACGGTGTGTTTGATGATGTCGCGCAGG
 5 CGGCTTGGCAGGTTTCGGGGGTGAAGGCACAGATTTGCAGGCTCAAATCGCCGTCGCACC
 AGCTTTTTTGCAGCTTATCGTTGGAGAAGTCGCGCATTTCTGCAAATGAATCGGTTTTT
 TGTCTTTGAGTCCGAACCGGCCGTCAAACAGGCTGCTGCCACCCCCACGGTAACGGTCA
 ACCCGTCGGGGTTGAAGGCTTTGCCAAAATGCCGCTGCCGGCTGGCGGAAGTTTGTCGT
 CGCCGTCTTGTAATCGCCGCCCTTGGTGAGAACTCGATCGGGCGGT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 331>:

GNMDO70R gnm_331

AAAAACCAGGTTTGGCATCTCCAATAAAGAAGCGCGCGGCTTTGCAAACCAGCCCAAG
 GTAAAGGGGAATGGGCAATATTCAACAATAAAGGACAAAGACAGGGAACGCAAATTTATC
 TATAATAAAGCGGCCGGGTGGAGGCTCTGTCTTTTTCGACAATACCGATACCCTTGTT
 15 TCCCGACAAAGCGGTACTGCCGTTTTTGGCACAGCCACCTACCTGCCGCCCTACGGCAAG
 GTTTCGGTTTTTGATGCCGACGGGCTGAAAGAGCGCGCAATGCCGTTAATTGGATTCAT
 ACGACCCACCCAGGGTTGATAGGCTACAGCTACACCAGTGTCGTATGCAGAGACAGCACA
 GGCTGTCCCAAACCTTGCTATAAAACCCGATTTTCTTCGACAACACCGGTTTGGCAAA
 AAATGCGGGCAGCCTGGATAGGCACCCGGACCCAAGCCGCGAAAATTGCCCCATTTACAA
 20 ATTGAAGGATCATCCATGGTTGGGCGTGTCTTTCAATTTGGGCAGCGAGAATACCGTCAA
 AAATGGCAACTCATTCAACAAATTGATATCTTCTTTTAGTGAAGACAATAATAATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 332>:

gnm_332

GCCGGCGCGGAAGAGGCGTTTTCAAAGTTCAAATGGAAACGTTGCCGcTkCAAawAmAG
 CrAkTGTACACCGTCAAAAACGTATAGTGGATTAACAAAAATCAGGACAAGCGACGAAG
 CCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACcTTAGAGAAT
 CGTTCTCTTTGAGCTAAGGCGAGGTAACGCCGTAAGTGGTTTTGTTAATCCACTATAACG
 CAAGCACCGCAAAGCCGCGCCAACCCTCTCCCAACCTTTTTTCAGACGGCATTTTCGGTA
 30 ATCTGCTAAAATCGCCCGCTTGAGTTCCACAGAAAAATCCGAAAAATGAATATTTTTTA
 CGAAGAGTCCGGCCAATTCAAATCGCCGCCATCATCCAAAAAACGATGCCACCTACCA
 AGTCGATACCCACACGGCAAACGCACCAAAGTGAAGGCGAACAACGCTTTGCCGAGTT
 TGACGGCGATATGGCGGCGTTTTTGAAAACGCGCAGGCACAGGCGGCGGACATCGACAC
 CGATTTATTGTGGGAAGTATGCGGCGAAGAGGAATTTACCGCCGAAGCCATCGCCGAAGA
 35 ATATTACGGCCATGCGCCGACCAAACCGAGCTGGCGGCAACTTTGATTGCGCTTTACGC
 CGCGCCGATGTATTTCTACAAAAAGCCAAAGGCGTGTCAAAGCCGCGCCGAAGAAAC
 TTTAAACAAGCACTTGCCGCCATCGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 333>:

40 **gnm_333**

TGGGCAGAGAATTGTGTTTCATGTCTGGCATTGATTTTTCTGTCCCATTATCATCGTCGT
 TAAAAGAGTATTTCCATTTTGACGTGGTTTCGTAGAATACTGAATGGGTATACTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 334>:

-733-

GNMDQ93TF gnm_334

CCCCGTAAGAAGAAGGCAAAAGCGATTTACAGATCAAATGGCAGCAGAATAAACCCTAC
GGTTCAGTATCGGTATAGATGATGCGGGCGGCAAAACGACCGGCAAATATCAAGGAAATG
TCGCTTTATCGTTTCGATAACCCCTTTGGGCTTAAGCGATTTGTTTTATGTTTCATATGGAC
5 GCGGTTTGGCGCACAAACGGACTTGACTGATGTGTGGACGACTTAACTGAAAGCGGGT
CCAGAAGTTACAGCGTGCATTATTCGGTGCCCGTAAAAAATGGCTGTTTTCTTTTAATC
ACAATGGACATCGTTACCACGAAGCAACCGAAGGCTATTCCGTCAATTACGATTACAACG
GCAAACAATATCAGAGCAGCTGGCCGCCGAGCGCATGCTTTGGCGTAACAGACTTCATA
AAACTTCAGTCGGAATGAnATTATGGACACGCCAACCTATAAATACATCGACGATGCCG
10 AGATCGAAGTACAACGCCGCCGCTCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 335>:

gnm_335

CCTGAAACGCTGGAAGCCAAAATGCTGACCGGCAAATCCGGTTACGATTTGGTCGTGCCG
15 GGCATCGCCTTCTGCGCGCCAAATCGAGGCGGGCGCGTATCAAAAAGTCAACAAAGAC
CTGATTCCCAACTATAAAAACATCGATCCCGAACTCTTGAAAATGCTGGAAACCGCCGAC
CCGGGCAACAGTATGCCGTCCCCTATTTCTCCGGCGTGAACACGATTGCGATTACGGCG
AAGGGCAAAGAGCTTTTGGGCGGCAAGCTGCCCCGAAAACGGCTGGGATTTGCTGTTCAAA
CCCGAATACACCCACAAGCTGAAATCCTGCGGCATCGCCCTGTGGGACACCCGAGTGAA
20 ATGTTCCCGATTTTGCTGAACTACTTGGGCAAAGACCCCAAAGGCTCGAATCCTGAAGAC
TTGAAGGCGGGCGGGAAGTGTGAACTCTATCCGTCCGATGTCAAACGTTTCAGCCCG
TCCATCATCGACGAGCTGGCAGCGGGCAGCATCTGCCTGGCGGCAGGCAACGGCGCGCAT
TTGAACTTGGCGAAAGCACGTTCCGAGGAAGTGA AAAACAACGTCCGCATCGAAGTGCTG
ACACCGAAAGGTATGGGCTTCTGGATTGAGTCTTGGCTGATTCGCGCCGATGCGGAAAAAC
25 GTCGCCAATGCCACAAAATACATCAACTACACGCTCGACCCCGAAATCGCGGCGAAAAAC
GGCATCGCCGTAACCTTTGCCCCCGCCAGCAAACGGCGCGCGAAAAAATGCCTGCCGAG
CTGGTGAACACCCGTTCCATCTTCCCGAACGAGCAGGATATGAAAGACGGTTTCGTGATG
CCGCAAATGAGCACGGATGCGAAAAAATGTCTGTCTGCTGAGCCTGTGGCAGAAAAATCAAAGTC
GGCACCAACTGATTGAAGCATTAAAAATGCCGTCCGAACGATGTTCCGACGGCATTTTTA
30 TATTGGATTGAAATAGAAATATTTATATAGTGGATTAACAAAAATCAGGACAAGGCGACA
AAGCCGCAGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAG
AATCGTTCTCTTTGAGCTAAGGCGAGCCAACGCCGTACTGGTTTTTGTAAATCCACTATA
CCGTGCTTCCCACGGTCAGGATTTAGATTGCGGACATCTGTGAGAAAAGACAAAAAAC
TTCCGCCGTCAATCCCTACAGGCGAGAATCCGATCCGTTGAAATTCGGTTGTTTTAAATA
35 AATTCTTGACGCTTTGATTTTCTGTTTTTCCGATAACGCCGTAACCTTGAAACGCGAAAG
CGGTAATCCGATCCGTTGGGATTTTGCAACTTCAAATCAATCCGCAAACTGAAATCCCGT
CATTCCCGCGCAGTCGTGAATCCGAACGCGTCCGCACGAAAACCTGCATCCCGTCATTCC
CACGGAAGTGGGAATCTAGGACGTAAAATCTCAAGAAAACGTTTTATCCGATAAGTTTCC
GCACCGACAGACCTGGATTCCCGCCTGCGCGGAATGACGAAATTCGGCGAGCCGTAGG
40 GTGGGCTGTAAGGTCGGCGTCCAGCCCGAAATGTTTGGGTTGCCGCTTCGGCGCGGAC
TTCAAACAATGGCTTGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 336>:

GNMDS61TR gnm_336

CTTAGATCTCATACCATGTCAATTGTGACTTACCCTCCAGGAAGCTTCCTCACTCTGAGAA
45 GGCCCCATTATTTGTTTTTTTCCAAGATGCTGACTGGTAAATATTTCTAGGAAAAAATAGA
AATGATTCTACTTTGTTTGTCTATAAATTCATCGTCCTT

-734-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 337>:

GNMDV66R gnm_337

5 CTTCAGGGTACTTTGAATTTTTTTTCAATATATCTGCCATATGTTTTTGTAGCCGAATT
TTTAGGAATACCAACCAACGCCAGGAGTATAAAATGATTGAACCTCAACTTCATGAATT
GAAGCTGGTTTTCAGGGGGAGGTCCCTGTAACAGACAATATAGCTGGAAATGTAGCTAATGC
TGCCACAACCAAGGAGGTCCCACATGGGGGGATTGGTTGCAATACCTGCTGCCGCAGC
GGCAGTTTATTATCTGCCGAAAAATGCTTACGGTGCTGCTGGTGCAAATGGTGTATACAA
10 TGTGACTCGTAATTGGGTAAATGATGCCGTTAATGCACCTCCTTATAACGGAAGACCAAT
CTTTGAGATTGAACATGGATTAACTGCTCCCGCAACAAAAGCAGATAAATCAGGGAACGG
CTACACTGACGGTACAGATTACTGCTGATATTTCTCATCGTCCAGACAATCTCTAGGGGT
CGTCTGAAACTTTCTTAACCTCAATTTTATGAATAGACCCAAGCAACCCTTCTTCCGTCC
CGAAGTCGCCGTGCCCCGCAAAACCAGCCTTTTTTTTTTTTTTTTTTTTTT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 338>:

GNMDW68F gnm_338

CCGCCGGATTTTCTCTCTTTTAAATATAGTAAAATTCATGACCCCTATGGGATTTTCAGG
AATATGTCTTTTATCTTCATAAGCCTCGTATTGAGGATAGGCAGATGGCATTTTTTTAAC
20 CCCGTAAGTGAGCAATCTTTCTCCATAGTCGTGCTTAACTACACGCATCTTTTCGGAT
AACAATATCGTCCACGCTATCCAACCGTCGCGTAGAAATTGGATAAAGTGCCTTTGTT
TTGCTGGATGTATGGCTCGAGCACCCAGCCTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 339>:

GNMDZ09R gnm_339

25 TGGAGTACCCGAGAAAGAAATCTGGGCATTGCCATTTCACATATCGCCGCCGGCTTTTCG
CGCTATACCACATAAAGGGCAGGGACGCGGCAAGCAGCCAGTGGAAGGCGGGTGGGGA
TGTCCAGACTTTGGTTTTGTTTTTCATAATCGGTTTCCGGCGGTAGAAATCGGTTTGTTT
TCGAGCCTTATTTAAACGATTGGAGGGGCAATGTTCCCGTTTTTCATCTTCATGCGA
30 GAGCCGCCCGAGATGCTTCAGACGGCATTGCGTTTTCCCATGTGTTCAAAGCCCGTGC
GGAAGATTCGGACATAGGGACTTTCGGCACGCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 340>:

GNMEB54TFB gnm_340

35 CCTGCCCGGTGCTGGAAGGTTAATTGAAGATGTGAGAGCATCGGATCGAAGCCCCAGTAA
ACGGCGGCCGTAACATAACGGTCCTAAGGTAACGAAATTCCTTGTCGGGTAAGTTCCGA
CCCGACGAATGGCGTAACGATGGCCACACTGTCTCCTCCTGAGACTCAGCGAAGTTGAA
GTGGTTGTGAAGATGCAGTCTACCCGCTGCTAGACGGCAAGACCCCGTGAACCTTTACTG
TAGCTTTGCATTGGACTTTGAAGTCACTTGTGTACAGATACGTGGGAGGCTTAGAAGCAG
AGACACCACTCTCTGTGGAGCCGTCCTTGAATACCACCCTGGTGTCTTTGAGGTTCTAA
40 CCCAGACCCGTCATCCGGGTCGGGGACAGTGCAAGGTAGGCATTTTACTGGGGCGGTCT
CCTCTCAAAGCGTAA

-735-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 341>:

gnm_341

5 CTCGGTACCCGAGCATTACGAATTCGAGCTCGGTACCCTGCGACAGGGCGGCAATCAGGC
GGTTGCGGCGCGGAAAATTGCCGGCATACGGCCGCGTGCCGATGGGGAACCTGCTGACAA
TCAATCCTTTTTCGGCGATTTCATAGGCAAGGTTTTTGTGACC GGCGGATAAATGCGGT
CTATGCCCGTCCCCACACGGCGATGGTGCCGCTTCTGCCTGCAACGCACCCTGATGGG
CGGCGGTATCGATGCCCGAAGCCATACCCGACACAACGGGAATGCCTTTCCACCCAACG
10 ACTTGCCGAAATCTTTGGCAATCCGCATCGCCTGCGGCGTGGCATGACGGCTGCCGACGA
TGGCGGCGGAAGGTTTTGTGAGCAGTTGCACGTTGCCGCGCAAAAAACAAACCGGTGGCG
CGGTGAGCCCCCTGCGTCAGCATTTCCGGGAAAATCTTCATCCTGAAGCAGCATCAGGCGGC
ATCCGTCaCGCATTTCTnCATTCGAATGCCGCTTCTGCCGCTGCCGCGCCAGAGCGCGTT
TTTCCGATTGCGCCAAGCCTCAAGCGCCTGTTGTGCCGTATCAGTGCCGCCAACTGTT
CCGCCGGTGCGGACAAGGC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 342>:

gnm_342

AAAATCAGAAAAGCCTTGGCGGGCTTTTGAAGGCACTGCCCCACCTTAACGACACCATG
CTGCTGTTTACGGGATTGTGGCTGATGAAAATTACCCATTTCTCCCCGTTCAACGCGCCT
20 TGGCTCGGTACAAAAATCCTGCTTCTGCTCGCCTATATCGCATTGGGTATGATGATGATG
CGCGCCCGTCCGCGTTCGACCAAGTCTACACCGTTTACCTGCTCGCCATGTGTTGCGTC
GCCTGCATCGTTTACCTTGCCAAAACCAAGTCCTGCCTTTCTGAAACACCGTTATGAAC
AACAGACATTTTGCCGTCATCGCCCTGGGCAGTAATCTTGAAAACCTGCCAACAGGTA
CGCGCCGCAATTGGACACGCTGTCTGTCCTATCCTGACATCCGTCCTAAACAGGCTTCTCTCA
25 CTGTATATGACCGCGCCCGTTCGGTTACGACAATCAGCCCGATTTTGTCAATGCCGTCTGC
ACCGTTTCCACCACTCTGGACGGCATTGCCCTGCTTGCCGAACTCAACCGTATCGAGGCT
GATTTTCGGACGCGAACGCAGCTTCCGCAACGCGCCGCGCACATTGGATTGAGACATTATC
GACTTTGACGGCATCTCCAGCGACGACACCCGACTCACCTGCCGCATCCGCGCGCGCAC
GAACGCAGTTTCGTCATCCGCCCTTTGGCAGAAATCCTCCCTGATTTTGTTTTAGGAAAA
30 CACGGAAGGTTTCCGAATTGTCAAAACGGCTGGGCAATCAAGGTATCCGTCCTTTTACCG
GACAGGTAATTCCGCAACGCGGATGCCGTCTGAAAGCCTTCAGACGGCATTTTTCTTTTG
CCGCCAACACGCGTGCAAAAAATCGCCCTTGAAAAGGGGGCGCAAAAGGAACACAAA
CCACTACCAAACTTTAAATCTGAAACACTGCCTGCCGCATACTGTATCCGACAGGATAT
AAAGCCCTCACTAAATCGTTTCGAGAAATCCAAACTTCTTCATCGCCGACAGAAAATCTG
35 CCTTTCTCCGGTACCAGCTCCAACAGAAACGGTTGAACCGCCGTATGCAGCCTGTCTTA
CACCGCCCCAGCTTTCTGGACAACGCGGACAGGGCGCGTTTGTAGGCATTATCCTTGCAG
TCAAGCTCCCGCGCACTGCCGACCCAGCTCAAACGAAGGTTGCGGCTTTTCATCCTCAATC
AGCAAAATGCCTGTTTGAATTCCTCCACCTCGGGCTCGCATGAAAGCGCAATATAATAT
TTGCCGTCGATGTTGACATACGCCGCTTCATGCACG

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 343>:

GNMED25TR gnm_343

TAAGTTTCCGTACCGACAGACCTGGATTCCCGCCTGCGCGGGAATGACGAAGCTATCCTT
45 TTGGCCGAAGGTCAAAAAATCAGCCGTCACAGAGTATTACCTGAATCACGGCGAATGGCCC
GGCAACAACACTTCTGCCGCTGGGAACCTCCTCAACAATCCAAGGGAAATATGTTAAAG
GAATTACAATCCCAACGGGGTCAATAACGGCAAAATGCCTTCAAGCCGGGTAAACAAAG
AAATCCAAGGAAAAAACTCCCC

-736-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 344>:

GNMEE40TR gnm_344

5 AGTGCTTGTGTTGTTTGACCGGTTGCTTTCGGATAATCGTGGGTAATGCGTTCGGCGGC
ATAAGCTAAATCCGCCTGCACATAATACGGGCTGCGGCTGCCGTCTTCACTTGCCGCCTG
CGCTGCGGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAAGAGAA
GAGAAGAGAAGAGAAGAGAAGGTTTTTTGGGGGCTGGATTCAATTTTCGGCTCCGTATTCTG
GTTTTAACTGATTAAAAAGAAAGATTTTCAATGATGTTGCAGGAGCGGACTATATCACGT
TTGTGGCGATGTTTCAACACAATATAGCGGATGAACAAAAAAGAGAACG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 345>:

gnm_345

15 ACGGGACCTTTGATGCTGATGCTGCTGGTTCGGCACGGGTATTTTGCTGACTGTTTTATTA
AAAGGTTTGCAGTTCACGATGTTGGGTTATGCGCTGAAACAGGCGTTTATGCCGCCAAAG
AAGCATAAAAGCGGCGAAGGCCACGAAGGCGATATTCCCATTTGCGGCGTTGATGACC
GCGCTGTCCGCCACCATCGGCACGGGTAACATCGCCGGCGTGGCGACTGCGGTGGTAACC
GGCGGCCCGGGCGCGGTATTTTGATGTGGATGACCGCCATTTTCGGCATGGCCACCAA
TACGGCGAAGGCGTGTTGGCGGTGAAATACCGCGTCAACAATCCAAAGGCGAAATGTCC
20 GGCGGCCCGATGTATTACATCGAAAAGGCTTGGGCAAAAACCTGGAAATGGATGGCCGTC
GCGTTTGCCTGTTCGGCACATTCGCTTCCTTCGGTATCGGCAGCTCGGTGCAGTCCAAC
TCGGTTGCACAGGCGGTGCAACAGCTTCGGTATCGAACCTGCCTATACCGGCATTACG
TTGACCGTTCTGACTGCCGTTGTCGTTTTAGGTGGTATTAAAGGCATCGCCAAAGCCGCT
TCTTTCATCGTGCCTGCTATGGCGGTGTTTTATGTGTTGGGCGGTCTTCCATTATCGCG
ATTAATTCCGATGCACTGATGCCTGCCGTCAAGCTGATTTTCTCCGATGCG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 346>:

GNMEG32TF gnm_346

30 AAAACGGTAAAAATCAATTCATACTTGAATACGTTCTGCGCCTGCCGGCTGGGAACAGGCG
CACGGATAATGCTTTGCCGAGTGCCTTTTTAATAAACAATTCCGTTTAAAGTAAACCGT
TTCATGAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 347>:

GNMEI01TR gnm_347

35 TACCCGGTTCTTAAAGTTGAAAACGTCTCATTGAGATATGCTGATAATGAGCCATATCTT
TTTGAACACATTAATTTGGAATTTAGAGATAATGAAGCAGTTGTTTAAACAGGACAATCT
GGTCGGGGGAAGTCCACTTTGTAAACATTTTAAACAGGTAGCCTAAAACCTGAACTGGT
ACAGTTAGTATTAATGGGCATGATATATCAAGTTTCTCCATCCTTTATTAGGGGATTG
AGCGGGATTGTTTCGCCAAGATGATGTCCTTTTTCAGGTTCTATTGGGGAAAATATTCA
40 TTTTTTGATGAAAGCCACATATGGAGCTCATTGAACAATGTGCACACGTGGTACACATA
CATGATCCATATACTTAACATGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 348>:

-737-

gsm_348

AAAAGTTGATAAATGGTAGTAGCATATGGTCTCATAATTTCAAGCTTAGAAATTAGTTAA
AGAATAGGGGCTGTCCTAGATAACTAGCGAAATTCAAATTAAGTTAGAATTATCCnTATG
AGAAAAAGTCGTCTAAGCCAGTATAAACAAAATAAACTCATTGAGCTATTTGTCACAGGT
5 GTAAGTGAAGAACGGCAGCAGAGTTAGTAGGCGTTAATAAAAATACCGCAGCGTATTAT
TTTCATCGTTTACGATTACTTATGTATCAAAACAGTCCGCATTTGGAAATGTTTGATGGC
GAAGTAGAAGCAGATGAAAGTTATTTTGGCGGACAACGCAAAGGCAACGCGTTCGCGGT
GCTGCCGGTAAAGTCGCCGTATTCGGTCTTTTGAAGCGAAATGGTAAGGTTTATACGGTT
ACAGTACCGAATACTCAAACCGCTACTTTATTTCTATTATCCGTGAACAAGTGAACCT
10 GACAGCATTTTTTATACGGATTGTTATCGTAGCTATGATGTATTAGATGTGCGCGAATTT
AGCCATTTTAGCTTCGCTGAAACTTCGTTTTCTGTATCAATCACAGCACACATTTTGCCGA
ACGACAAAACCATATTAATGGAATTGAGAATTTTGAATCAGGCAAAACGTCATTTACG
CAAGTTTAAACGGCATTTCCAAAGCGCATTTTGAGCTGTATTTAAAGGAGTGCGAATGGCG
TTTTAACAACAGTGAGATAAAAGTTCTTGTTCCATTTTAAACAATTAGTAAATCAAGT
15 TTGTCCTAGTTATCTAGGACAGCCCTTGTTTTTGTTCGGCGGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 349>:

gsm_349

CACATCCGTGCCTGTGTCATTGTCAAAAAATACCGTAAATAGATTGTATATCCTTTTTATC
20 AACATCATCCTCACTCAAATCACTGCCGATACCGACAGATAACCACGCGTTTGTCTTTC
AGTTTGGAAACGGCGGGCGGGAGGTAATCGGCTTATCCAGCGTGCCTTTAAAAATAGTA
CGTACAGACCATTGGTTCGGATCGTTGTTGCTCAAATCAAAGCGGTACATATCCCGCCG
CGGTGCGCGGCATAGGCGATATCGACCGTGCCGTCAAATCTTTATCCACCAACGTGGGG
GACGAAAGCCCGCCCTTGCCGTGCGGTACGTTGATTGTTGCAATCGGCGTACCGTTGTTG
25 TTTTCAAATCATAACATACAGCGCGGTTTTATTCTCGCCGTTGTTAATGTCTTTAGTC
GCATAACCGGAGGCGATGAAGGCGGCGTATTTGCCGTTGTGGGTTTTGCCGATTTGCCG
GTACCGACGGTGTAGCCTAATTTACGCCATTGTGCTTTTTGACATCAAACATGGAAACG
CCGGCCGGGTTGCTGTTGTGCGATTTTGCTTAAATCCAAGGCGTATGCGCCTCTGCCGCCA
AAGCCCATTCGCCCGAACATAAAGAAGTGTTTTTGCTTGTCTTGGTCATCTGTAATGCGG
30 CGCAAGACAAAGCCCGCTCCACGCCATAGCGGTGCCCCACATAGCCTTTTTCGGCAAAG
GTGCGCAGCTCTTTGGCAAGGGTGGATTGCGTGTGTTGAATATCCTTGC CGCGGCATCGTG
CCCTTTCAGACGGCAGCAGCTTTTGATTACCGGCGAAGACGCGCGTGCCGACGTACAGG
TTTTGCGTGCCGAAAGCTGCGCGGTGCTGACCGGCATCGGCACGGTGTGGCGGACAATC
CCCGCTCAACGTCCGCGCTTTTCAACTTTGCGCCAACCCGACGCATCGTTTTAGACA
35 GCGCCTGCGCCTGCCCCGAACAGCCATTTGGTTACCGACGGACATCTCCGACCTACA
TCGCCACACTCGAACGCAACGAAGACAGACTGCACCCCTATCGGGACACGCACACGTCC
GCATCCTGATGCCGTCTGAACGGCAGACAGCAAATCGACCTGCACCACCTGATGCGCC
TCCTTGCTGACGAAGGTTTCGGCGAAATCATGGTCAAGCAGGCTCCGAATCACATCCG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 350>:

gsm_350

TCAAGGCATTTTTTTTCGATTTTGATAGTCTGCAACTTGAAACAAAACCTACAATATTGT
CAATATCGGCAATTCCCCATCAAATCCGCCAAATCAAAAATATAAAAAGGGATGTCCT
CGATGGGCATATCGCGTATTACTTGTTCAATCCATAACTGAATTCATTTAAATCAATAG
45 ACTGAGAGAATAAGCATTTAATTGCAAATCCTAAATCATCACTATCCTCTTTTATGATT
TCCACATAATTATCTTCCTTTGCCGTCAAACGCTCTTTTAGTTACCCGCTTTATATCAA
AATACCGTCTGAAAGCCGAATATCGTTTCAGACGGCATTGTGACTGTTTAAAGCGGGGGC
AGTTCTACAAACGGAAAGAAATGCTGAAATTTCTGATAAATTCAGGATGTTTCTCTAAA
GCTTTTAAATGCTTTTTCTTTTGAATAGGCGGATCATAGACATCTATCCCCCTTAAGAAG

-738-

5 GCAATGCCGGTCAAGGCATTTTTTTTGGATTTTGATAGTCTGCAACTTGAAACAAAACCT
 ACAATATTGTCAATATCGGCAATTCCCCaTCAAAATCCGCCAAATCAAAATATAAAAAG
 GGATGTCCTCGATGGGCATATCGCGTATTACTTGTTCAATCCATAACTTGAATTCATTTA
 AATCAATAGACTGAGAGAATAAGCATTTAATTGCAAATCCTAAATCATCACTATCCTCTT
 10 TTATGATTTTCCACATAATTATCTTCTTTGCCGTCAAACGCTCTTTTAGTTACCGCTT
 TATATCAAAAATACCGTCTGAAAGCCGAATATCGTTTCAGACGGCATTTTGACTGTTTAA
 AGCGGGGGCAGTTCTACAAACGGAAAGAAATGCTGAAATTTCTGATAAATTTCAGGATGT
 TTCTCTAAGGCTTTTAATGCTTTTTCTTTGAAATAGGCGGATCATAGACATCTATCCCC
 CTTAAGAAGGCAATGCCGGTCAAGGCATTTTTTTTTCGATTTTGATAGTCTGCAACTTGAA
 15 ACAAACCTACAAATATTGTCAATATCGGCAATTCCCCATCAAAATCCGCCAAATCAAAA
 ATATAAAAGGGATGTCCTCGATGGGCATATCGCGTATTACTTGTTCAATCCATAACTTG
 AATTCAATTTAAATCAATAGACTGAGAGAATAAGCATTTAATTGCAAATCCTAAATCATCA
 CTATCCTCTTTTATGATTTTCCACATAATTATCTTCTTTGCCGTCAAACGCTCTTTTAG
 TTACCGCTTTTATATCAAAAATACCGTCTGAAAGCCGAATATCGTTTCAGACGGCATTTT
 GACTGTTTAAAGCGGGGGCAGTTCTACAAACGGAAAGAAATGCTGAAATTTCTGATAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 351>:

GNMEI43TR gnm_351

20 TACCCTCAGGATTGGCATATTGATCCCGATAACCATTTCTCCAACAACCCCGACTTTGTG
 GACTCCTGGCCGCCACATGGGGTTGTTGGCACCGACGAAGCTGAGATTCATCCGGCGATC
 GCTAAGATTCTGTGACGCACGGGTAAAGAAAGGCCAATACGCTGCAGCCTATTCGGGG
 TCAATTTATTAAGCTTCTATCAACCTCCCATCTCGGTTTCGCATCAAACACAGGCTTAG
 CCTTAGGTATACCGCCCCCGATTTACCCACACTGAACAAATCTATAGAGAACTGAACAT
 25 ATTCGCGAGCCTGCTCCGACAGCCCCAACTGCTCAAGGCCTGAACCGCAATCGTCGGTC
 GTTGCTCGCTGGCTTTTTTCCGAAGTTTTTCGTCCAGTAATGACATGATCGTAGGAAG
 ACGTTACACCAACCAAAGCGGCGGCACAGCCTAAGCCGAAAGTCTCGGCACAAGATCCGC
 CTCGGCTACTCCTGAAAGAAACAACCCCCAACTGCCCGAAACGATTTAGCCCCGGGTG
 AGATGTAGCGGTGCAGGATACTTTTGTCTTCCCTATCCAGCTTTTCGTATTCAGCCTTCA
 AATAAGAGGCTACTAAATCAGGATGTTTAGTTAGGTAATATAAGGATTCCTTTTTTAAGT
 30 CCTTAAACCTACTGTCAAAGCGTTTGTCTCGGTAATTCGATAATGCGTCCTATATTTT
 GACGACATTCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 352>:

GNMEI51TR gnm_352

35 TCAATACAGTTTCAAAATGGAAAATGATACGTTCACTTTGGATTTTAGTGGTCTTGTTC
 AGCATTTAACCATGTCACAGAAGCTAATCCGCAAAAAGCTTTTGTGGATTTGGCCGAGAT
 GCTTGCAATATGGCGAATTCTGTTCTTGGTATGAAGGCCGAAGACTAATGACCGATTATGT
 GGAGGAGGCATCACAAGCAGGTAAATTTGAAGATTACCAGAAAGTGTTGGGTGAGGAGAC
 40 CGTTGCATTATTAGCTAAAACATCGGCTACGCAAGCACATGATATCCTGCACAAATGTATG
 CTTTGGTCATAATAAAAATGTTTCTTTATATGGCAATCACAGGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 353>:

GNMEJ36TF gnm_353

45 CCGCGCTTGAAACGTCCGCTTGCAGATACTACAGAAAGAGTGTTCAAACCTGCTCTATG
 AAAGGGAATGTTCAAGTTCTGTGACTTGAATGCAACATCACAAAGAAGTTCCTGAG

[illegible]

10 GNMEJ56TR gnm_355

15 CAACAGTCGCACTACAAAAGCCACCGCGCGCCGTACCCGCCCTTGGTATAATGTGGACGT
GTCCGGTTATTACACGGTTAAGAAACACTTTACCCTCCGTGCGGGCGTGTACAACCTCCT
CAACTACCGCTATGTTACTTGGGAAAATGTGCGGCAAAC TGCCGGCGGCGCACTCAACCA
ACACACATATGTCGGCGTTTACAACCGATATGCCGCCCCCGGTGCAACTACACATTTAG
CTTGGCAATGAAGTTCTAAACGTCCAAACGCCGCAAATGCCGTCTGAAAGGCTTCAGACG
GCATTTTTTACACAATCCCCGCCATTTCCATCATCCCCGATACACCGTAATCTCGAAAC
CCGTCATTCCCGCGCAGCGGGAAATCCAGTCCGTGCGGTTTCGGTTTTTTTGAAGTTTCG
GGTAAC TCTTAAACCGTTATTTCCCGCAAAAACAGCAGTCAAAAACAGAAACCTCAAGTCC
CGTTATTCCCGATCAGACGGGATCTACGGCGTAAAATCTAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 356>:

CGCCGCATCGGGCAATTTGCCTTTTTTCAGTCCGGCTTCGAGTTTGTCCGATGCAAGTTT
CAAGAGTCTGTGCTGTGTGTCGTTGTCCATAAAGGGCAGTTGTCCGGAGGTGGATTTTTG
TGCCAGTTCCTTAAAAAGGTTGCCGAAGCTGTTTTTGCGGTAAGTGTGCCGTTGAGGGC
GGGAT

GNMEK86TFB gnm_357

30 TCGACTCTAGTAGATCCCGCATGGCCCTTCCATACAGAACCACGGGATCACTATGTCCT
GCTTTCGCACCTGCTCGACTTGTGCGTCTCGCAGTTAAGCTACCTTTTGCCATTGCACTA
TCAGTCCGATTTCCGACCGGACCTAGGTAACCTTCGAACCTCTCCGTTACGCTTTGGGAG
GAGACGCCCCAGTCAAACCTGCCTACCATGCACGGTCCCGACCCGGATGACGGGTCTGG
35 GTTAGAACCTCAAAGACACCAGGGTGGTATTTCAAGGACGGCTCCACAGAGACTGGCGTC
TCTGCTTCTAAGCCTCCACCTATCCTACACAAGTGACTTCAAAGTCCAAATGCAAAGCTA
CAGTAAAGGTTACGGGGGTCTTCCGCTACAGCAGCGGGTAGATTGCATCTTCAACACCA
TTCAACTTCGCTGAGTCTCAGGAGGACAGTGTGGCCATCGTTACGCCATTCGTGCGGG
TCGGAACCTTACCCGACAAGGAATTTGCTACCTTAGGACCGTTATAGTTACGGCCGCCGT
TTACTGGGGCTTCGATCCGATGCTCTCAAATCTTCAATTAACCTTCCAGCACCGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 358>:

-740-

gnm_358

GCGGCAATGCCGTCTGGAAAAGCGGATACCGCCCTGCTGTTGTACGGGTGCGGCTTCTAT
TTGCGCCGTTGCGGCAACTTTGGCAACTTTGGCAACTTTGG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 359>:

GNMEL61R gnm_359

CCCCAAGTGGCGAGGGGGCAAGCAAAGAGCCGAAAAGACAGGGGGGACCGCAGACAGGGG
CGAAAGCAGGAGCGGGGAGGGCAGAAGCCAGGGGGGCGGCAACAACGGAAGCCGAGGGG
GGAAGGAACGGGGGCGAGCAGCGCCGGGGAGCGAAACCGGCAGGGGCAGGGGCAAAAGAA
10 GCCGGAGAGGAAGACGGGGAGCAGGGCAGAAAAAGAGCAGCAGAAGACAGAGCGGCCGAA
GCAGAGACAACGGGGGTGAGTGTGGGACGGACCCAAAACCCGGGGGGCGCTGGGGCGACG
AGACGGAAGGCAGAAGAGGGCCAACCGAAGCAAAAGCACGGGAAACAGCAGCCAGCAAA
GCCGGCGGCGCGAGGGGGGGGCCAAGGCCGACAAGCTCGGAAAGAGAGGCCAAAGACAC
AGCGGCAAGAGAAAAAAGGAGGAGGAGAAGCGGGGGGGCCAGGA

15

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 360>:

GNMEN01TR gnm_360

CCAATGCAGGATCCGAGCCGAGTATGCAACCTACACCACAGCTGGCGGATTTGCACAAAT
TGAACCTTGTGATGCTGGGTGATGAAGCGCACCATTAAACGCGCAAACCAAAGGCAAAA
20 AACAAAGGCGAATTAGATTTAGAAAAGGAAATGAACGACCGCACCAGCAATGCCGAAATTG
AACGTAAAGGCTGGGAGCATATGGTTTTGGAAATTGTTACTCAATAAAAAATGGCAATCATA
GCCAAAATGTGCTGTTGGAATTTACCGCCACGCTGCCTGAAAATGCCGATGTACAACAAA
AATACGCTGATAAAATCATCACAAAATTTGGCTTAAAGAATTTTGCAAAAAGGTTATA
CCAAAGAAATCAATTTGGTATCCAGTACGCTGGGTAAAGAAAGAGCGAGTGTACACGCTT
25 TATTGTTTGCTTGGTATCGACATCGAATTGCGTTGAAATATGGCATTGCCAATTTCAAGC
CTGTGATGTTGTTTAGAAGTAAGACGATTGATGAATCAAAGCGGATTATCTGGCATT
TAAATTGGGCAGAAAAATGTGCAGGCGGTTGATTTTTTCGTTTTTAACATATTTCAACAA
GCTTGAACGATAGCGATAGCGATAACGCCAACGAACAAGGCAAAACCCGCACTGAACAAG
CCCTAAAATTTATGCAGGAAAAAGGCGTTGAGTTGCACATTTGGCAGATTGGGTAAAC
30 AGA

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 361>:

GNMEP25TE72 gnm_361

TTCCGACATTCTTAAATTACCCGTGTATCGCTGTAAATCTTAGAGATGGCGGAATATAG
35 CGGATTAACACAAGGCATTACTGCAATGCTCAGGATTCCGGTACAGGGTCATCGTTGCAC
ATTTAGCCAAACGGCCGTGACCGATTTACGGCGTTTCGGTGCGCCCATGCGGCCCACTT
CGCCGGTAGAGTACGGCGGAAAGTTGTAGTGCAGCATAAAGCGGTCGGTGTATTGCCCGG
ACAGCGCGTCGATGATTTGCTCGTCGCGGAAGTACCCAAAGTTGCAACGGCCAAAGCTT
GGGTTTCGCCACGGGTAAACAATGCAGAACCGTGCGTGCGGCAATACGCTGGTTTGA
40 TGTTACGCGGACGGACGGTGCGGGTGTGCGGCCGTCGATGCGCGGTTGGCCATCCAAAA
TTTGCTGCGGACGACATCGGCTTCCAAGTGTTTG

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 362>:

-741-

gnm_362

GCATTGTCTTGTGGCCCTTACTTTTAGCATCTTGTATCGGCGGCAATTTTCGGCGTGCAGC
 CTGTTGTGCAATCAACGCCGACCGGTACCCCGTCACCTTCAAATCTAAGGACGTTCCCA
 CTCCGCCCCCTGCCGGGTCTTCGGTAGAAACACGCCGGTCAACCGGCCCGCGTCCGGTG
 5 CGGCAATGCGGCTGCCAAGGCGGAATATTGCTTCTATAAAACAAGACGGTACGGAAATTC
 CCGACAAGCATCAGGCAGAGGAGCATCTGCCGCTTAAAGAGAAGGATATCCTGTTTTAG
 ACGGTACGCTGAAAGAACAGGCTGACAACTTAAAAAGAAAATCAACGAACGGTATTCTG
 ATGTGAGGGTTATCACATCGAAAAAGAAGAAGAAAATATCAATATCAATTTGTCCGTG
 CGGGCTATGTGTTTACCAGGGCGGAAGGAAAGGATAATGAAAAAGAAAAGACTTCTGATG
 10 GTAAGGAGTTTGTAAACCGATTTAGTTATGACGGTTTTGTATATTATTCCGGAGAACGTC
 CTTCCCAATCTTTACCAGCGCGGGAACGGTGCAATATTCCGGTAACTGGCAATATATGA
 CCGATGCCAAACGTCATCGGACAnGTAAGGCGGTTTTyCAGTACGGATTGGGTTATACCA
 CATATTATGGtAATGAAATTGGGGCACTTCTTATGAGGCTAGGGAT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 363>:

GNMEP68TB22A gnm_363

ACATGGCATTTCGGACTTCATGCGTTCGTGCGCGGCTTCGGCTTTTCAGACGGCATATTTG
 ACGTTATGATTAACAGTTAACAAGATTTATCACAACGCCGTCAAGAGAC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 364>:

GNMEP74TR gnm_364

ACTTCAGCCTCCCAAGTAACTGGCATTACAGGCATGCGCCACCATGCCCAGGTAATTTTT
 TTTTTTTGTATTTTAGTAGAGACGGGTTTTGCCATATTGTCCAGGCTACTCTTGAAC
 CCTGCCCTCAAGTGATCCGCTTACCTCAGCCTCCCAAAGTGCTGGGATTACAGGTGTGAG
 25 CCACCATGCCAGCCATCCTTGTATTCAACCCTACCACACTTTAAATCTCTGACAGGG
 AGTAAGTATGCAAAACGCTCCCATCCGGTCAGGCGCAGTTCTGCCACGAGGTCAAGATAA
 GCAGGCAGTTTCGCTGCGGGTGCCGAGAGAAGACAAATGGCGGCCGCACCATTGCCATC
 AGGCGCAGAACTCTACCATGCCGAAGTAGTTTCATCGCGTnCCCTTTTCCCCGGCGGCGC
 GGCTTTGGTTTGAACGCGCGTCTGCTGCCTTTCAGTTCGCTGATATACGCCTGCC
 30 GGCAGTGGTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 365>:

gnm_365

CCTGCAGTTTCTCGATATAGCCTTCTGCATCGGTACGGGTATGTAGGTTGTAACGGGTT
 35 TGTAAGAGCCGTTTTTCTTTATCCAACGGGCATCGCTGTCCTTACTCGGTGTGGTTTGAC
 CGCTGATTGTCTTCTTCGTCAACTTCTATGGCCTGACGCTGTTTGCTGCCGGCGGTCT
 GAATAATGGTGGCGTCAACGACGGCAGCGGATGCTTCTCTATTTTAAACCTTTTTCGG
 TCAGTTGGCGGTTAATCAGTTCCAACAGTTTCAGACAGGGTATTGTCTTGCGCCACCGGTT
 GCGGTACGGCATAAGGTGCTGTAATCGGGGATGCTCAGTTCGTCAAAACGGCAAAACAGG
 40 TTGAAATCGATGCGGGTAATGAGGCTGTGTTTCGAGTTCGGGATCGGAGAGGCTGTGCCAT
 TGTCCGAGCAGGACGGCTTTGAACATGGACAGCAGGGGATAGGCAGGACGGCCGCGGTGG
 TCTCTAAGGTAACGGGTTTTTTGACGGTTCAGGTATTGTTTCGATCAGCTGCCAATCAATC
 ACCCGGTCCAACCTTCAATAGCGGGAACGGTCGATGTGTTTGCAATCATGGCTTGGGCG
 GTTTGTgAaAGGTGCTCTTGAGAAATCCCTAAATGTCTTGGTGGGAATTTAGGGGAT
 45 TTTGGGGAATTTTGCAAGGTCTCTAGATGAGTGAAAAAGAAGTGCAGGCTGCCTAAAAA

-742-

GACAGAAAAAGTCTTTCCGGCAGCCTGCACTTTGGTTTCATTTAGTCAGTAAACCCAGT
AAACGACGGTCTGAAAACGCAGAACGTTACGAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 366>:

5 **GNMEQ90R gnm_366**

GCTTTGCCGTCAAGCGCGCCGCCAGTTGATTTGGTTGCGCGGTGGTTTGGGAGAAGCTT
GCGGAATACGCGCCAATACGTCGCCTTTACCGATTTCTGACCTTCGCGTACGGTAATCA
CCGACCAACGGGGAATGCCATGGATACCGGAGTAGAAGTACCGGGAATACAGATTTCCA
CGCCGTTTTCTGCCAAGAGTTTACAGTCGGACGCAGCAGTGTCTTCTTGAGAGGAA
10 CGACGTTTACGTCGAATCACCACCAAAGTGGACAAACCGGTTACATCATCGGTTTGTGTTG
GCAACGGTAACGCCCTCTTCCACGTTTTTGAATTTACCATACCTGCGTGTTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 367>:

GNMEQ91R gnm_367

15 CAAAAGTTTTTCAAATGAAACGGTTGCGGCATCGGGCGGTGTCGACGTTGATTTGGTTCC
CGTGTGGTAGGGGAGGAAGCGGCTTCTTCAAACCTGCCTTTGATTGCTGTTGTGCGCGC
GGTGATGGGGAATCGGGAGAGGTGCGCGGTATGTGTCCCGCGGTATTGTCGATTGTGCC
GCTGTTTTTTCCCGTCTGCCTGATGCGGACAAGGGCTTTTCCGCTCCGCAAACCGGCAAG
20 CATGGGGACGGAGATAAAATCGTCGGGAATACCGTAGATCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 368>:

GNMEQ92R gnm_368

GAAACGGTTGCGGCATCGGGCGGTGTCCATTTGTATCCGCCGTCCTTCGGGGGCGCGGTT
25 GATGTTGACGCAGATTCCGCTGCGTTTTGACCGATGATGTTGCGCGGTGATGGGGAATCG
GGAGAGGTGCGCGGTATGTGTGCCCGCGGTATTGTCGATTGTGCCGCTGTTTTTTCCCGT
CTGCCTGATGCGGACAAGGGCTTTTCCGCTCCGCAAACCGGCAGGCATGGGGACGGAGAT
AAAATCGTCGGGAATACCGTAAATCGGGAAGCGGGCTTGTGCCGTCGCCCTGTCGTCGCC
C

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 369>:

gnm_369

CATCGGGCGGTGTCCATTTGTATCCGCCGTCCTTCGGGGGCGCGGTTGATGTTGACGCAG
ATTCCGCTGTGTTTGCCCATTTATGTTCCGCTGCGGGATAAGCAACATTTATGAGCGGCTA
35 AAAATGGGACGCCGGTATTCTCGATTGTACCGCTGTTTTTTCCCGTCTGCCTGATGCGGA
CAAGGGCTTTTCCGCTCCGCAAACCGGCAAGCAGGGGACGGAGATAAAATCGTCGGGAA
TACCGTAAATCGGGAAGCGGGCTTGTGCCGTCGCCCTGTCGTCGCCCTTCAGCACCGGTT
CGTAATAGCCGGTAACCGTACCGTCAAGGCTTCCGTTGCCTGCAACCTGCCACGGCGTGA
AATAGCGTTCAAAAACTGTTTTG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 370>:

-743-

GNMER68TR gnm_370

CACTGTGCCGCCGCTTTGCCCGTCGGTGCGGCAAGCGCGATGTTGGGAAGATTTTCGTCT
TCACCGCAAATCAGCGCCAGCAGTTTGGCAACCGTTGTCGTTTTGCCCGTTCGCCGGCCCCG
CCGGTAATCACCATAAAAGACTGCAACAGTGCCAAGGCGGCGGCATCGCGCTGCCCTTCG
5 CTGCCCCGTGCCTTGAACCATTTTGCGAGGTTTTGCCTCGCGCCTGCCGCGTCGGGGGCG
GATGTGCCGGCTGCCGCCAAGCGTTTATCTCGGCAGCCAAATCGTATTCCAACAGCCAC
ATCCTGCCCAAAAACAGCCTTCTGCCTTCCAnAATCAAAGGCGGCGGATGTTCCGACA
ACnGGTGCGAGTGCCGACAGCGCTCAGCCTCGCCACCGCTCAAACGGATATTGAACTTT
TCTCCACTGCGGTCTACGCTGCGACTGTGATAATGCCTTTTTGAGCGTCTTTTTC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 371>:

GNMER69TR gnm_371

CAGGCAGGTTCCGGTCGGTTGCAGCCACTTCAACGACTCCGGCTTCTGGCTGGTCGGCCGT
CTCTTGGACATGGACGTACCGACCACGCTGAAAACCTGGACGGTCAACCAAACCTCATC
15 GCACTCATCGGCTTTGCCTTGTCGCACTGCTGTTGCCCATCGTCTGACAGACGGAAAGG
ATAGTAAATGACTACGCATTTTGTGCTTATGGGCGTATGCGGCTGCGGCAAGACCACCGC
CGCGCTGTCCCTGCAGAAACACCTCGGTCAATGTCCCTATGCCGAAGCGACGAGTTCCA
CACCCAAGCCAACCGCGACAAGATGGGCGCGGGTATTCCGCTGACCGATGAAGACCGCTA
TCCGTGGTTGGGCAATCTGCGCGACTGGATGACGCAACAGGCGCAAAACGGTGCGAACCA
20 CACCATCGTAACCTGTTCCGCCGTACGAATGACCGTTTTTGCAATGCCTGAAACAGGCG
TTCGGTGCAGTTTGCAAGCACTTCGTGCGCGGAACCCGCATAGTGTCCAGAAAACGGAT
TGCCGCCCTTGCCGCCGCTTGGGCAAATTCATCTGTCTGCCGTTCCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 372>:

GNMER70TR gnm_372

ACTGGAAAGTGCGCATCGAAGATGCCATTGCCGCCGACGAAGTGTTTCGTTACGCTGATGG
GCGACGAGGTCGAGCCGCGCTAGCCTTTATCGAACAACAACGCGCTGATTGCCCAAAA
TATCGACGCATAAGTGCCGTTTTAAAAAAGGAGACGGGCATCGTGCCGCGTCTCCTTTTT
GGTTGGTCAAACGGAACCTGTGCCGTCTGAAAAACCGTCGGAGCAAAATATGATCAGCAT
30 TTTGATATTTTCAAATCGGTATCGGGCCTTCCAGTTCGCATACGGTCGGCCCGATGAA
GGCAGCCGCCGCTTTGCGGCAGGTTTGGATGCACAGGCTGTTGCGCATCGTCATCGACAT
TTACGGCTCGCTCGCACTGACCGGATACGGACACGGTACATTTGACGCGCTGACAAACGC
GGCTACCGCGACATTCTGCGCGGAGCCGAAGGCAAAGCTGCCTTCATCCACCTCAGTCCG
CCGCAAGACATCAACCTCGAGCGCATGATGTCGCGCAGAGGACATTACATGAAAGCAGGG
35 ATGCTCGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 373>:

GNMER71TR gnm_373

CGGCATGCGGATTGAACATGATGATGTCGCGGTCTTTAAACGTACCTGGTTCGCCTTCGT
40 CGGTGTTGCAAACACATATTTTTCGCCCGGGAAGAACGGGGCATAAAGCTCCATTCA
AACCGGTCGGGAAGCCCGCACCGCCGCGCCCGCGCAAACCGAGGTTTTGACTTCGTCAA
TCACATCGGTTTGCGAGATGTTTTCGGACAGAATTTTACGAGGGCGGTATAGCCGCCGC
GTTTGACGTATTCGTCCAATGTCCAGCAATCGGGATTGGCGGTATCCACTTGGTCAAAAA
TCACGCCTGATTGGTAAATAGCCATTTTTGGTGTGCCTGTTGTTTTCGTATCGGTTGCG
45 GTCGCTGTTTTAGACGACCTTAAGATGCTTTGTGTACCGGCTTGTAACGTCGTCTGAAA

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TAAAATCTAGTTTATCAAATCGCTCGGTTTGAAGGCAGCCTGCCGCACGACATCCCGCT
TGCCGGCATTCCCGAACGCCTCGAACGCATCCGCACGCAGCACATCCTCCGGCTCAACGG
GCAAGAAATCGGCTTCATCCCCGA

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 374>:

GNMER72TR gnm_374

CGAAAGCGGGAATGCCGAATCCGTCGCGCGGAAACCTGCATCCCGTCATTCCCGCGAAA
GAGGGAATCTAGAAACGCAAAGCTGCAAGAGTTTATCGGAAATGACCGAAACTCAACGAA
CCTGGATTCCCGCTTTCGCGGGAATGACGGGGGTTTGGCGGGAATGACGAGGGTTTGGGA
10 TTTCTGTTTTTGAATTTCTGTTTTGTGAGAATGGCAAGATTTTCGGTCTTGTATGGAT
AACGAGATTTTAGATGGCGGGAATTTGTGCGGAAACAGCAATCTGAGACCTTTGCAAAA
ATAATCTGTTAACGAAATTTGACGCATAAAAAATGCGCCAAAAAATTTCAATTGCCTAAA
ACCTTCCTAATATTGAGCAAAAAGTAGGAGAAATCAGAAAAGTTTGCACGATATTTTCA
GACGACCTTTAATCGTTTTTGTGGATCTCGnACACTTGCTTGTCTGTCGTCATTCCCGC
15 CAnGCGGGAATCCATCCTCAATGGTAAGCAATGTCTTATTAA

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 375>:

GNMER73TR gnm_375

CGGCAATACCGATAACGGTCAAATCCACATAACGGTTGTTGGCAAATGCTTGGCGCACCA
20 TCAAATGCGCCAGCGAGCCTTGTCCGAACAAATCGGCCGCTCGGCATCGCTAAATAGTT
GCACCGGCTCTAAGGCGGGCTGTATGCCCGCGGTGAGCATGGGTGCAACCATCAATACCT
TTTGCGGATTTTGGCGCAAACCTTGTACGGCATTGCGGGTGTAAATTCATATACTGCC
CGGGCACGCGGATGCTGCCCGGAATCGTGTCAAATCAATATGGGGCATCATTACTCTCC
CTTAGTATTGCGGGTTTTGGTATTTGGGGCGGCATCCTCAACCACCACCAAATCGCCGTC
25 ATCAATCATGCGGCGGTAATACAGGCTGTTGCCGTCCAACCTCCACCGGCTCTTGGCCGAT
ATATTCGTGCGGGTTGTGTTTTTGAAGATGAGATTGAGCATAAAATTTAGTAACCTAT
GTTATTGCAAAGGTCTCAATCTTTACCGTCATTCCCACGAAAGTGGGAATCTAGAAACGC
AAGTTGCAAGAATTTATCGGAAATGACCGAGACTCAACGAACCT

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 376>:

gnm_376

GGGCGTTGATTGCGATTGTAGGGTTGTAGGCTGGAAAAGTTACGGCATTTTTAAAGTTT
ACAGCAwAGCCACAGACAGCCGATTGAGCAGGAAGCGCAAAAAGAAAGCGTTGTGCAGA
CGATGACGGAGCAGCCTGCATCATCAGAGGAAATGCCTTTAAAAAATTCAGACAATTTGA
35 AACCTGAAGACTTTGTGCCGACTTTACCCGAAAAGGCCGAAAGCAAGCCTATTTATAACA
CAGTCCGACAAGTAAAAACCTTTGAGCAAATCGCCGGATGTATAGACGGCGGAAAATCAG
ATTGCACATGCTATTCAAATCAAGGAACACCCTTGAAAGAAATAACAAAGATAATGTGTA
AAGAATATGTGAAAAACGGGTGCGCTTTCAATCCTTATAAGGACGAACAGCAAAGGACGG
AACAGGTGGAACAGTCCGCGAAAGCGGACAAGCCGCAAGTTCTCGTAATGGGCGGAAAGC
40 CGTAGCAAAATCTCATGTACGACAACCTGAAGAGCGCGGAAAACCGTTTGAAGGAATTGGC
GGCGGAGTCGTAAAGCAGAAAGTTCAATCCCTACCCCTCAGGATGGCTTGAGCTGAGTGA
AGGGGGTTAATTGCTAGAAATGGCTGTTTTTTTAAAGTGTCTCAGTCTGGAATCGCTTCG
TTCGGGGTTGTAGGTGCAGGAAAATATGGCAGAAAAAAGGAAACGGGGGAAGCTTTGTA
AAGATTGGGCGCGCTTTTTACCCAATCTTTATGAATACCCCTTTTCCTTTTTTATGAAC
45 TGTTTTTCAGTACCGGTAACCTCTCGAACGGAGTGATTGAGACTGAGATACGCCCATGA
AAATCAGACATTCCGGTTCGCATCAGAAACCTTTACCAAGACCTGCGACCCCAATCTACGG

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CAACGGCGACAATATGCCCCGATGAGAACTGCTGCCGTTGTTTCGACAAATCAATTTGCAG
CAAGGCAAGCATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 377>:

5 **GNMER76TR gnm_377**

CCGCCGAAGCAATCGAGGCGGCGTGGATATTGTTGGTAATCACCCCTCAGGCTGCCGCGCC
GCCTGACCAGCTCCGACACCACGGCCTCCATCGTCGTGCCGATACTGACAAACAGCGACG
AACCCTCGGGGATGTGTTCCGCAATCAGCCGGGCAATGGCGTTTTTTTCGTTTTGACACC
GGGTTTGGCGGTGCGGCGGCGAGGCCCTCCGGCAAGTTTCCGCCCCAAGATGCGCCGCCGT
10 GATGGCGTTTCAGGCTGCCGACCTCCTCCAACCTCGCGGATGTCGCGGCGTATCGTCTGCG
GGGTAACGTCCAATGCGGCGGCAAGCTCGTCCACCGACATAAACTGATGCCGGCGGACAA
GGCTTAAATCTCTCCGTGCCTTTGGATTTTCGGCTTCATCGTTTTCTGAAAATCAGATA
CGGCAAGGCGGATAAGCTTCAAGCCCTGAATGAGTAGATCAGCCCATTGAGGGCTTGCGC
TTTGA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 378>:

GNMER80TR gnm_378

AAATCCCGTTTATTCCCACAAAACAGAAAATCAAAAACAGCAACCTGAAATCCCGTCTTT
CCCGCGCAGGCGGTAATCTGAACACGTCCGTAGTGAAACCTATATCCCGTCATTGCGACG
20 AAAGTGGGAATCCAGGATGCAGGGAACCGTTTTATCCGATAAGTTTCCGCACCGAAAG
GTCTAGATTCCCGCTTTCGCGGGAATGACGGCGGAGGGTTTTAGTTTTCTCGATAAATG
CACATCATCCAAAGTCCCGTTATTCCCACAAAACAGAAAATCAAAAACAACATCTGAA
ATTCCGTCCTTCCCGCCTGTGCGGGAATCCGGCTTGTTTCGGTTTCGGTTCTTTTCTCGT
TTCGGGTGATTTCTAAACCGTCATTCCCGCGCAGGCGGGAATCTAGGTAGCATACGGCT
25 TTGTTCCGCAACCATTTGGGCCCCACGCCGAAAACTCGCCACCCTGCGCGAGCAGCTC
GGTCTGTTGGGGCTTCAACTTGGCGGCGGCGACAACCCGTCGCCGAnnAGATATGCCGCG
CTTGTCGAACATTCAAAGGCAGACTGATGCCGAATTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 379>:

30 **GNMER81TR gnm_379**

CGCCCTTTGAATTTGCCCCATAATGCAGCCTTGCCCAAGACCAATGCCGCATTCTGGTT
CAGATTCACATTGCCGTTAATCTGTGTCGCTCCAAAGCTGTTTAAAGCCTTATCGGATAA
GTTGCCTGTGTGTCAGGTAACGTAACCGGTATAGTCCGAGCGCACGCAACCTCATCGCC
GTTTTTGTAACCCAAATTTACTTTGGCGTTGTCTGTGCGGTGATGTTGGCGGTGATGTC
35 GGATACATTTCTGCCGGAAGAGAATGATGCGGATTGATTAACCGCAATTTCTGTGGCTTT
GAATGTGCGGTTTATCCAGTCGTCTTCAAATACGACTTCATTGTTTTTGGAGAAATGTGC
GTCTTTTCGGGTGAAGATTTGTTCAAAAATCTCTGCGTGTGGTGTGGACGACCTGA
TAACAAGACATTGCCTTGATCTTTAAGCTTCGGTTTTCTTGATAAATCTTGCCGCATT
AAAATTCTAGATTGCGCCTTTCGCGGGAATGACGGCGGAGGGTTTTTGTGTTTCCCGATA
40 AATGCACATCATCAAAGTCCCGTTATTCCCACAAAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 380>:

-746-

GNMER87TR gnm_380

CAACAACCTTCAGCGCCTGCATTATAGGCAGCATCAACCATTTCAAAAGCTGTTTTTAAAG
AGCCTTCATGATTGATGCCGATTTACAGATAATCAATGGTTCGTGGTTGTAACCTACTG
AACGATTACCAATTTTAAATTCGTTGTTGTTTGCATTTAGCTTTCCTTGTGATTAAGAA
5 TGTTCCTGCCTGTTGTAAATCAAGCTCAGTATCAATATCGATAGAGTCTTGATGAGACA
TAATATAAAGTTTGGTTGGGGCGATAAAAAACAATTATTTGCAATTAGTGAAGCAGTAT
CATTAAATGTAAATTGCACCATTAGGCCTAAATGCCTGAGGTAATTGTTGGCGAGGCTGCT
CCAAATCGCTTAGATGGCGCATGGGGGCATATTCGCCATTATTGATTTGAAGCAAGGTTT
TTAGTGGATGATGCTCCACAAATACGCACTTGCCTGCCTTGTGATAATGTTGTCGTGAA
10 TATCGGAATAATTGACATAGTTGAGCATAATGCCCTGATCGCGGCTGCCGACGGCGATAT
TGTCGAATACTTTGAGCCGCTCGGAAAACATCAGCACATAGCCCATATTGTTGCCACCG
AAATATTGCCGCTGATTCGCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 381>:

15 GNMER88TR gnm_381

CACGGATGACGCGGTACGGATTTCCCGGGTGGCTTCTTCATAGATTAAATTGCCCGCCG
CGCCGGCAGTGGAGTCCAATACATCGACCAAAGGCACGCCGCGCAATCAGCGTCGCCG
TCGTCGTGCCCCAGCGGGCAATCGTTCCCTTGGCGACAATGTCTCCGAAAATCGGCATAC
GCAGCAGTATGGCATCCATACGCCGTTGGATTTAATCGAACGCGCCTTCAATTTAAGGA
20 AGCCGTATATGGCAAAGCCCAGTGGCATCAGCACCATCCAGCCGTATGAGACGAAAAAGT
CGGACATATCCATCACTGTTTGGGTCAGTGCGGGAAGCTCCGCGCCCATATTGGCGTAAA
CTTCTTTAAAGCGGGCAGTACGAAAATCATCATCACGAATACCAAACCGATTGGGCATG
CAGAGACAACGGATCCTTTTATTTTCTCATCAAATAGAGAAAACTTCACGAATATGAGC
CCCTGTGCGTAATGGACTGGTTGGTTGTAATAAGGTTACTGTGCCGGAATTAC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 382>:

GNMER91TR gnm_382

CACGAAGCCCGCGCGGAACGCGTCTGCCACAAACAGCATACGTTCCGGGCGGGGTTCGC
CAGTTCGCGGGCGGATTTCGCTTTGTCTTCACTGCGCGGATTGAAGCCGCACAAGCCTGT
30 TTCCAAGCCGCGCAGGGCTTTTGGAACTTTCTTGAATCGTGGGCCCCATCGCCATCAC
TTCGCCCACCGATTTCATCTGCGTGGTCAGGCGGTCTGCTGCGGCAGGGAATTTTCAA
CGCGAAACGCGGGATTTTGGTAACCACATAGTCGATGGAAGGCTCGAACGACGCGGGGT
TTTGCCGCGCGGTGATGTGCTTGCACAACTCGTCCAGCGTAAAGCCGACCGCCAGCTTCGC
CGCCACCTTCGCAATCGGGAACCCGTTGCTTTGGAAGCCAACGCGGAAGAACGGCTCAC
35 GCGCGGGTTTCATCTCAATCACAACCGGTTTCnGATTGCCTGCGCCCCCGCCTTGCCGCTGA
TGAATCGTTTCGCGAGGCATTGATTCCTTTTCAAATACCGATGCCGTTTGAAAGATGTT
CAGACGGTATCTTCCGAACAGACAGATGAATATGGTTTCCAAACTGGACAAATACTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 383>:

40 GNMER94TR gnm_383

CACTACGTTCAATTTCCGCATTGCTGGTGCGGTCGTTCAATTCCTTTTCTAAATCTAATT
CGCCTTGTTTTTTGCCTTTGGTTTGCGCGTTTAAATGGTGCGCTTCATCAGCCAGCATCA
CAAGGTTCAATTTGTGCAATCCGCCAATGTGGTTTGATTTTCCGCGGGGTGCGAATAT
CGTTATACAGCTTTTGAATGCTGGTAAATTTAATTTCAATGCCGCTGAATGTGGGCTAA
45 ATGTCTCCACTTTGCGAATAGGAATTACCGTATCGCCCTGCAAAATCTTCTCGGTAAATA

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AAAATTTTGCCTGCGTCGGATCGGTAAAATTAATTTCCGTTTTATCCACGATATTGTTTT
GATTCACAAAAACAGAAAATGCCGATAACCTTTTTCAAATAATACAAACGCACCCCTGC
TGATGAACGATTTGGACAGCTTGGATATTACCGGGCCGA

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 384>:

GNMER95TR gnm_384

AGCGGCACGGTTTGAAGCGGCCAGCCTATGCCGACTGTCGGGTCGTTCCATATTTAAACC
TGTTCCGGCTTCAGGCTTGTAAATAGTCCGTGCATTTATAGACGAACTCGGCTTCATCGCTC
AGTACATAGAAGCCGTGTGCGAGGCCTTCGGGTACCCACAGTTGGCGTTTGTCTCTGCG
10 GACAGAATTTGCCTACCCATTTGCCGAAAGTGGGGGAGTCTTACGCATATCGACGGCC
ACGTGCAATACTTCGCCGACAACCACGCTACGAGTTTGCCTTGTGTGTTTTCACTTTGA
TAGTGCAGGCCGCGCAATACGCCTTTGCCGATTTGGAGTGGTTTTCTGCACGAAGGTG
CGTTCGCAGACTTGGGTTTTAGACCACTCGTCGCGGAAGGTTTCCATAAAAAAGCCGCGC
GCGTCGCCGAAGATCAACGCCGCCATCATCATCGTTTTGCCAGCACCTGTTGCCATATTG
15 AACAGCAAATGCGTTGGCTTATTTTTTAAATCAGGGAAATCGTCTAGCTTTGAAGTGGG
TCAAAAATCAAAAAGTTTTCAAGGGCAGATTTnTGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 385>:

GNMER96TR gnm_385

CGGCTTCGACCGCGCCGGTGTGGTCGGGATGTGCGGACAGATCGACTTTGTGTTTTTCGC
CGTTTACTTTGAATGTGATGTAGGCATCGGGCAGGTTGAGTTTTTCGGCAAGGCAGCTGA
GCAGGACTTCGCCGCTGCCGTTATCCAGGACCGCGCCTTTGAGGGACGAGCTGCCGCGAGT
TCAAAACCAAGATCAATTTTTGGGACATTTTCTTACTCCGGAAAGTTTCAGACGGCATTG
GAATCGGACACGGATACTAACCGGATTCTGTGCCGAATCCGTTTTGCCTTCTGGGCGGGA
25 AAGTAGTGGGGCCGTCTGAAAAGGTTGATAnAAGAACAGGCTATTCTAGCAnAAATCTTT
GCAATTGCTTGGCTTAATCGGGCGTTTGCCTGAAAATGCGGGAAGTCACTTGGrGCTCAA
GCAGTTTTTACGTGAGGAATGGCGGTATCAATGATGTTTCATCTTTTTATCTTTCATCTAA
GGGCGTCTGAAA

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 386>:

gnm_386

AATTCAAGAATCAATAGGAAGGTTAAAAAAGGATAAACTTCTTTTATAATTTCTCATCG
TCTTTCAATTATTCGTGATGCAACATTAATAATGGTTATTAATGATGGTAAAGTACTTGA
AATGGGTAATCATGATCAGCTGATGAAACAAAATGGATTTTATGCACGTTTAAACAATC
35 TTCGGTTCGTTAATAAATTCTAATGACTGTTGCTGAAATTAAAAAACTTGCATTAAATAA
TCAGGTATTTAATGAAGCAAAGCGCTTTTAGAAAAAGGTAATGTTATTTTTCCGGGTAC
CGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTCA
CAATTCACACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCCTGGGGTGCCATATGAG
TGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCGCTTTCCAGTCGGGAAACCTGT
40 CGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAgAgcGgTTTGCCTATTGGGCG
CTCTTCCGCTTCTCGCTCACTGACTCGCTGCGCTCGGTCGTTTCGGCTGCGGCGAGCGGT
ATCAGCTCACTCAAAGCGGTAATACGGTTATCCACAGAATCAnGGGATAACGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 387>:

-748-

GNMES45TR gnm_387

5 GCGGTCGCGCCCAAACAGCCCATTTACCTTCGTCTTTTTCATTTTGTCTTTTCTCCAA
TAAGCCCATTTTCCATCATCTCGATTTTGCCCAAAGTAAAAACGGTGGCGGCTGATTGG
GCGCAAACGCCCAATGTACAACTTAATCGCCCAAAATTTATGCCAAAAACGCAACTT
TAAACACGTACATTGGGAGGTCGCGCCCAATCAGCCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 388>:

GNMES47TR gnm_388

10 CGCAAAAAGCTAGCGCACGGCGCTGTTTCTGCGGGTCGATATCGAGCGGCCGAGCCTAA
GCTTGACAGGAATATTGGCCTTAAGTGACAGCATCGGCAAATCGTTGACAGCCCATAGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 389>:

GNMES52TR gnm_389

15 TCCAGCTCGGTAGCAATACGAATTCGAGCTCGGTACCAGGTTACAGGAGAAACAGATTTA
AGAGGTTCTAATATTACAGCCGTA AAAA ACTTGGTTGTGCGCCACCACCAAAGGCAAGTTG
AATATCGAAGCCGTAAACAACCTATT CAGCAATTATTTTCTACACAAAAGCGGCTGAA
CTCAACCAAAAATCCAAAGAATTGGAACAGCAGATTGCGCAGTTGAAAAAAGCTCGCCT
AAAAGCAAGCTGATTCCAACCTGCAAGAAGAACGCGACCGTCTCGCTTCTATATTCAA
20 GCCATCAACAAGGAAGTTAAAGGTAAAAAACC CAAAGGCAAAGAATACCTGCAAGCCAAG
CTTTCTGCACAAAATAATGACTTGAATTCCGCACAAGGCAATCAAATAACCGTTCCGAT
ATTACGGCTTCCAAAAA ACTGAACCTT CACGCCG CAGGCGTATTGCCAAAGGCAGCAGAT
TCAGAGGCGGCTGCTATTCTGATTGACGGCATAACCGACCAATATGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 390>:

GNMET50TR gnm_390

25 TGAGCAATTTAATTGCCGCTCGGTACCCTAACATATTGCCGCCAAGCGGTATGGAAGCGG
AAATAATGGTAGGTGGGCTTCAGACGGCATCCGCCCTCCCGTCATTCCCGCGTAAGCGG
GCATCCAGACCTTGGGATAGCGGCAATATTCAAAGGTTATAAAAGACCCGTCATTCCCGC
GCAGGCGGGAATCCAGACCTTGGGATAGCGGCAATATTCAAAGGTTATCTGAAAATTTAG
30 AGGTTCTAGATTCCCGCTTTCGCGGGAATGACGAAAAGTTGCGGGAATCCAGAACGTCGG
GCAACGGCAATATTCAAAGCCGTCTGAAAATTTAAAGTTCTAGATTCCCGCTTTCGCG
GGAATGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 391>:

GNMET92TF gnm_391

35 CCGTCAAATAGGACTGCAGTGAAAGTCATTTTGCGCCCTCCTTATTTTCCAACGCAACG
GTGTGGCTGCCGTCGAGCGTGATGTCTTTGCCGTACACCTGCAAATCGAGCGACTCGCCT
TTGAGCAGAGTGAAAGACGACGTTTCTTTGCCGACGGCGACTTTAATCAGACGGCCGCGG
TAGTTGATGTGGAAGGCGTAGCCTGTCCACGCACTCGGCAGGAACGGTGCGAAGCTGAGT
40 TTGCCGCCCCAGGTTTTCAATTTGGGCGAAACCTTGACGATGGCGAGCCAAGAGCCGGTC
ATGGAGGGGATGTGCAGGCCGTCTCGGTGGCGTTGTTGTAATTGGCCAAGTCCAAGCGG
GCGGTGCGCTGGGACATTTCCACGGCTTTTTCGTCCTTGCCCAATTGCGGGGCGAGAATA

GAGTGAATACAAGGCGACAGCGAGCTTTCATGCACGGTCAACGGTTCGTAGAAGTCGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 392>:

gnm_392

5 GCACAACTTAATTATGTTGCCTGAAACATCATATAAAAGATAATAAAAGGTACGCAGCCA
TGAATTACGCAAAAGAAATCAATGCGTTAAATAACAGCCTTCCGATTTGAAAGGCGACA
TCAACGTTTCATTTCGAATTTTCCCGCCGAAAAACGAACAAATGGAAACCATGCTGTGGG
ATTCCATCCATCGCCTGCAAACCTTGCAACCCGAAATTTGTTCCGTAACCTACGGTGCAA
ACTCAGGCGAGCGCGACCGCACACACGGCATCGTCAAACGCATCAAACAGGAAACCGGCT
10 TGGAGCCGCGCCTCACCTGACCGGTATCGACGCTTCTCCGACGAATTGCGCCAAATTG
CCAAAGATTATTGGGACAGCGGCATCCGCGCATTGTGCGCCTGCGCGGAGACGAGCCGG
CCGGTTATGAGAAAAAACCGTTTTACGCCGAAGACTTGGTTAAGCTATTACGCTCCGTCG
CCGACTTCGACATCTCTGTAGCAGCATATCCCGAAGTGCATCCCGAAGCGAAATCCGCAC
AAGCCGACCTGAWTAATTTGAAACGCAAAATCGATGCGGGCGCGAACCACGTCATCACCC
15 AATTCTTCTTCGATGTGAACGCTACCTGCGCTTCCGCGACCGCTGCGTGATGTTGGGTA
TCGATGTGGAATCGTCCCCGGTATTTGCGCTGTTACCAACTTCAGGCAGCTCGGTAAAA
TGGCTCAAGTAACCAACGTCAAATCCAAGCTGGCTGTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 393>:

20 **gnm_393**

CGGCTGTCTTCATTGGCGTACGGCGCGCTACTGCTCACACCGGTACTACCCGAAAGTTAT
GCAGCAAGCGTAGGACGTGTCTTCAGCACGCACGCGTCTGAACAGTATACAGAGAATCTG
AATATTTACTgCATAACAAATGCCGTCTGAAAAATGTGAGCTTTTCAGACGGCATTGAG
25 CCGTAAATCATGGAACGCGTGCGCGCTGAAGCACACACCTTACGCATGGATTTTAGGTTT
CATGCAGGCTACAGCTTGCTTCCATAAATCATTTTTATCAGAGCTCGTAGGTACGGTTAA
GCTTTTAGGGTTAGCCGGTACAATGTGAACCTCCATTTTACCTGAATGAATCGTACCAA
ATTGGTACTTAATCCTGATTTCCCATCGCTGCCTATAGGATACCCAAAATCAACAACAGG
ATTTCTCTTGCTCCTTTAGAAATAACTGGATAAGCACCTGAATGTATTCCGTTCAACAA
TTCTTGAGGATTAATGTTTTGATTTAAAGTACTCTTACCTTCAATGTAGTTCTATGTCC
30 TGAAATATGTTCCCTTGAGCTCCATCATGAATTTTAGTCCCAATAGATTTTGCTTTAA
ATCAACATTGCGGGTTTGAAACATTTCTCCATCTACAGACTGAGATAATCTTGAAGCAGT
GTTATGCCTGTAGGAGTCTGAGAAATCCCCACTAACCGCAGCCTTCCCCGGTTTTGGCGC
CTTTGTCAGGTTTTTGA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 394>:

gnm_394

GACGGCGAGCATAATGTCGCTGTCGTATTCGTTTCATCTGGCAGCCGAAGGTGCGGATAAA
TACTTTTTTCATGGTTGTGTCTTTCTCAGGCAGCCGTAATCGCGGGGCTGATTGTTGTTG
GAATGAAAAAATTTAGACGGCAGCAGATGCCGTCTGAAAATCGGTGCGGATTATAGCA
40 CGATGTGGGTTTTGGAGGCAGGATATTGTTTTAAAATATGAATTTAATCGGTGCGGACGG
CTGTATAATGTTTGCTTTAATGGGAGATGTGTATGAAACCGGCTGTATGGGCGGCATTG
CTGCTGTGTGCGTGTACCAGCAATTTGCGCGACAGGGAACATCAGTTCCTGCGTTATAGT
GGATTAACAAAAACAGTACAGCGTTGCCTCGCCTTGCCGTACTATCTGTACTGTCTGCG
GCTTCGTCGCCTTGTCTGATTTTGTTAATCCACTATATCAGACGGAAGAGGGAATCGC
45 ACTGGATTGAGCCGAAATGCCGTCCGAAAACAGCAGACCGATGCCGTCATTCCCGCGCAG
CGGGAATCCAGACCTTGGGATAACGGCAATATTCAAAGGTTATCTGAAAGTCCGAGATT

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CTGGATTCCCACCTTTCGTGGGAATGACGGGATGTAGGTTTCGTGGGAATGACGTGGTGACAG
GTTTCCGTATGGATGGATTTCGTATTCCCGCGCAGGCGGGAATCTAGAACGTAAAATCTA
AAGAAACCGTGTTGTAACGGCAGACCGATGCCGTTCATCCCGCGCAGGCGGGAATCTAGA
CCATTGGACAGCGGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTGGATTCCCCT
5 TTCGTGGGAATGACGGGATTGAGATTGCGGCATTTATCGGAAAAACAGAAACCGCTCC
GCCGTTCATCCCGCGCAGGCGGGAATCTAGGTTTGTGGTGGGAACTTATCGGGTAAA
ACGGTTTCTTTAGATTTTTCGTCTAGATTTCGCACTTTCGCGGGAATGACGAAGAGTTGC
GGGAATGATGGAAAGCTATGGGAATAACGAAGGGTTAAAGTAATCACGGGATGGTGTTCG
CGGGAATAT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 395>:

GNMEW92TF gnm_395

GGTTTCGCTTGTTTTAAAGTTTCGGGTAACCTTCCACTTCGTTCATTCACGAAAGTGGGAA
TCCAGTTTTTTGAGTTTCAGTCATTTCCGAGAAATTGCCTTAGCATTGAATGTCTAGATT
15 CCCGCTACGCGGGAATGACGGATTTTAGGTTGGGGGCATTATTGGAAAAAGCACAAAG
CTGAAAGTCGGCATTCCCGCGCAAGCGGGAATCCAGTGCGTTGAGTTTCAGCTATTTAGA
ATAAATTTTGGGACTCTAATCGCGTCATTCACGAAAGTGGGAATCCAGGACGCAAAAT
CTCAAGAAACCGTTTTACCTGATAAGTTTCTGCACTGACAGACCTATATTCTCGCCTGCG
CGGGAATGACGAATCCATCCATACGGAACCTGC

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 396>:

gnm_396

CCGGGCGAAGTCATCGCCGGCGCGCTCGGCAGAGACCTCAAACAATGCGCCGTTTACGGC
CGCGAAGGCCACACCGGTCCGCGCGATCCGTCGACCATCGGCTTTGCCACCGTCCGCGCA
25 GGCGACATCGTCGGCGACACACCGCCCTCTTCGCCACCGACGGCGAGCGCGTGGAATC
ACCCACAAGGCCAGCAGCCGCATGACCTTTGCCGCCGGTGCCGTCCGCGCCGAGTTTGG
GTCAACGGCAAAACGGGTTTGTACGATATGCAGGACGTACTCGGGCTGAACAGCCGTAA
CCCCCATACAAATGCCGTCTGAAGATATTGTTACACGGCATTTCGCCGACAGGCTC
CGTATCGGCATATCAATGTTTCAGCACACAGGACGACGCATAAAGCGTCGCCCTATGTGT
30 TGCCCTGAGTCGGCACGGGTTACGCCCTCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 397>:

GNMEW95TR gnm_397

GTCCGATGTCTGTATTGATTCCAGATCAGTCACCATTTTTTGGGAGTCTTCAATGGTTAT
35 ATCGCCAAATCTTTTCCATGAGCTTTGAACTGTCCATTAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 398>:

GNMEZ23F gnm_398

TGGTTTTGGGTGGGTCAAACAACCTCTACTTACATGGATCGGCAAAACGACGATACCAA
40 CTGCAATCACTTCGTCAATCAGGTAACAGTCAAACCTCCACCGCCAACGACAGCGCAAAAG
CCAAACGCGCTTTCATACCTGAAGAATAGCGTTTCACCGGCTCATACAAATATTGCCCA
GCTCCGAAAATCTTCCGTAAACGCTTTCACATAATCGATATCGACATTGTAAATCCGGC
AGATGAAACGCAATTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 399>:

GNMEZ79TR gnm_399

5 TCCCTCTGGCCTGAACCAAGCCCAGAAATTATACCTGCAACATCCGACACAAACAAAGGCA
TTTCAATATTTTATTTCTATGAAATAAAAGCGTGAAGCAGGCTTACACGCTTTTATTT
GGCTGGGGAGGAAGGATTGGAACCTTCGCATGCTGGAATCAAAATCCAGTGTCTTAACCG
CTTGACGACTCCCCAAAAGGGCTGGCTGGGGAGGAAGGATTGGAACCTTCGCATGCTGG
AATCAGGATCCACTGTCTTAACCGCTTGACGACTCCCCAACTCGCTTGACTTGGCTGGG
AGGAAGGATTTCG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 400>:

GNMFC24TR gnm_400

15 CTCGAGGGAATTGACCGGCAATTCTTCAAGCAATAAACAGGAATACCAATTATTAAAAGA
TAACCTTAGTCAGATCGTACAATAAAGCTTTGAAGAAAATGCGCCTTATTCAATCTTTGC
TATAAAAATGGCCCAAAATCTCACATTGGAAGACATTTGATGACCTCATTTCTTTCAAT
GAAGGGCCTAACGGAGTTGACTAATGTTGTGGGAAATTGGAGCGATAAGCGTGCTTCTGC
CGTGGCCAGGACAACGTATACTCATCAGATAACAGCAATACCTGATCACTACTTCGCACT
AATTTCCC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 401>:

GNMFC24TF gnm_401

25 AATTCCCCGAGGAATTATTCGATAAAGATAAGCTTACATTATGAAGAGCAGCATATTACA
GCCGTATGGGTCTACTTGACAGTAAAATTTGAAGAGCATTGGAAGCCTGTTGATGTAGAG
GTCGAGTTTAGATGCAAGTTCAAGGAGCGAAAGGTGGATGGGTAGGTTATATAGGGATAT
A

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 402>:

GNMFC32TF gnm_402

30 GCAGTCGACAGTAGnAGATCCCCACCCGTACCGATGCAGAAGGCTATATCGAGAAACTGC
ACATTACCCCGCCAATGCCCATGAGTGCAAACACCTGTCGCCGTTGTTGGAAGGTCTGC
CCAAAGGTACGACCGTCTATGCCGACAAAGGCTATGACAGTGCGGAAAACCGGCAACATC
TGGAAGAACATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 403>:

35 **GNMFC63TF gnm_403**

CGATAAAACCTGCGCTATCAGGCGCTGATGCAGGGCATTTCGCGCGAAAAATCCGACGA
AATCTTCAACTACATGGAAAAATTCGCCGGCTACGGTTTCAACAAATCCCACGCCGCCGC
CTACGCCCTGATTTCTACCAGACCGCATGGCTTAAAGCGCACTACCCGCCGAATTTAT
GGCGGCGACCATGTCGTCCGAATTGGACAACACCGACCAGCTCAAGCATTTCTACGACGA
40 CTGCCGCGCCAACGGCATTGAGTTCTGCCGCCGACATCAACGAATCCGACTACCGCTT

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5 CACGCCGTATCCGGACATGAAAATCCGCTACGCGCTCGGCGCGATTAAAAGCACGGGCGA
GCCCGCCGTGCAATCCATCACCGCCGCGCGGCAAAGCGGCGGCAAGTTTACCGGTCTGTT
GGACTTCTGCGAGCGCGTCCGGCAAGAACACATGAACCGCCGCACCCTCGAGGCCCTGAT
ACGCGGCGGCGCGTTCGACAGCAATCGAACCCAACCGCGCCATGCTCTTGGCGAACATCGA
CCTCGCTATGGACAACGCCGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 404>:

GNMFD08TR gnm_404

10 ATTACGTATCGAGGCATTCGAGCTCGGATACCCGGGTTAATATCAGATTTTGGAGCAGTA
AAATTTATTATGTACACTAATCCAAAACAAAATCAAATATTGAAAAGTAGATTTATTTTC
GAATAAATAGAAAGCCGTCTTATATATAGTAATAAATTAATAACCCTGTTTTCTATTG
CCTTTATTGTGCCATGCAGTTGAGTTTGATGAACTCAATATAACGACTGTAAAGATAAA
TCTATGTTATGTGCTGTCAGAATTGATTCTCCCAAAGGCAATAACTATAGTGGATTAACA
15 AAAATCAGGACAAGGCGACGAAGCCGCACACAGTACAAATAGTACGGCAAGGCGAGGCAA
CGACGTACTGGTTTAAATTTAATCCACTATATAAATCTATGTGGTTTGACAATGGCAAGT
TAGTATTTATATCCTTTACTAATCAACAAATGGAAAATCAAAGTCGCCCATCTCTAGCGA
TGTTTATTAGTGATGACAAAATATCCAGTACCAATATTGATGAATTTTAGCATCTTTCG
ATCCTGATAAATATCGAATATTTTCATGATCCAAGATATAAATTTTACCTAGTATGTCGA
20 ACTCATTGTAATCCTTATTCTCTTTTGATATTGATAGCAAATATAAACCTGATGAGAAA
GATAAATCTTTTTTTCAATCAGACAGATAACACAGATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 405>:

GNMFE17TF gnm_405

25 GTTATCCAAAGGAGGCTGTGCAAGGCAAGGCATGAAATCGAGCAGTCCGTATTGTTTGAC
TTTGTCTGGTCAATGACGACTTGGCGCGAGCGGAGGAGGATTGCGCCATATTGTGAAT
GCCTGCCGTCTGAAAAGGTCGCGGCAACTGGGGTTTATTGCAGATTGTTGGAAAATTCC
TAGAAAACGGCGAAAATACCCGGTTTCCCAATTTAAATATTTTGAAGAAGCAAATAA
TATGGCAGGTATTACCACCGAAGACTGTACCGGAAAAATTTCCAACCATTTTGACCTGAC
30 ATTGGTAACGGTCTCGCGGGGCGGCAACCTTGAAAACGGCAACACGCCGCTTGTGGACAA
TGTCGCGCACTACCAACCGACCGTTACCGCCTTAAGGGAAATCGCCGCCGACATATCGG
TACAGAACTGTTGACGCGCAATAAATAAATCTGCCGGAACGCACGCCGGAACACTTG
CCGCCGTGCAGTCCGACGGTTTGAATGAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 406>:

35 **GNMFE18TF gnm_406**

CTTTGGATGAAGATGGTGTAAATGCACGCTTTGGTCCGACGGGTCGAAATGCGCGCTTTCG
ACTTGCCCGACCAATAAAATTTTCATACAAAACAGGGCTGTTGACGTTGAGGATGCGGTCTG
TTTTTACCAATCAAATTCAGCGCAGCCCGCTTTGCCGATGGCGGTAACGGGCGGAATG
40 TCCTGCACTTGGAACACGCTCTTTGCGCTCGCTTTTGCCGGGTGTAAAGGCGATGTAC
GAACCCGAAAGCAGCGTACCCAAACCGTTACGCCGCTTTGGTCGATACGCGGCTTGACA
ACCAAAACTGGGTAAACCTGCGGATAAGGCCGAATACTTCGGCATTGATTTGGGCGGTTA
CTTCAACGCCTTTTTGGTCGTCGCGCAGTTTGATTCCGGTAACGCGTCCGACATCGATGC
TCAATACTTTGATGACCGTATTGTTGACCTCAATGCCTTCCGCGCTGTCCATCAGGAGCG
TAACCACAGGCCCCCTGTTGCGGATTTCTTAACCCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 407>:

GNMFE54TR gnm_407

```
5  CTCGGCTACCCTGCAAATTCAGATTCCCGTCTGCGCGGGAATGACGATTCATAAGTTTC
   CCGAAATTCACATAACCGAAACCTGACAGTAACCGTAGCAACTGACCGTCATTCCCA
   CCACTTTTCGTCATTCCCGCGAAAGCGGGAATCCAGAATCTCGGACTTTCAGATAATCTT
   TGAATATTGCTGTTGTTCTAAGGTCTGGATTCCCGCCTGCGCGGGAATGACGAATCCATC
   CGCACGGAACCTGCACCACGTCATTCCCACGAACCCACATCCCGTCATTCCCGCAAAAG
   CGGGAATCTAGGACGCAGGGTTAAGAAAACCTACATCCCGTCATTCCCTCAAAAACAGAA
10  AACCAAAATCAGAAACCTAAAATCCCGTCATTCCCGCAAAAGCGGGAATCCAGTCCGTTT
   AGTTTCGGTCATTTCCGATAAATTCTGTGTTGCTTTTCATTTCTAGATTCCCACTTTTCGTG
   GGAATGACGGCGGAAGGGTTTTGGTTTTTCCGATAAATTCTTGAGGCATTGAAATTCCA
   GATTCCCGCCTGCGCGGGAATGACGATTCATAAGTTCCCGAAATCCAACATAAGCGAA
   ACCTGACAGTAACCGTAGCAACTGAACCGTCATTCCCACCACTTTTCGTCATTCCCGCGA
15  AAGCGGGAATCTAG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 408>:

GNMFF86R gnm_408

```
20  GAATGACGATTCATAAGTTTCCCGAAATTCACATAACCGAAACCTGACAGTAACCGTA
   GCAACTGAACCGTCATTCCCACCACTTTTCGTCATACCCGCGAAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 409>:

GNMFG09F gnm_409

```
25  CCGACTACGATTTACTTATAAAAAATGGACAGACAGTAAATGGTATGCCTGTTGAAATTG
   CAATTAAAGAGAAAAAATAGCTGCTGTTGCACAGACTATTTTCAGGTCTGCAAAAGAAA
   CTATCCACTTAGAACCAGGTACTTATGTATCCGCAGCTGGATAGATGATCACGTTTCATTG
   TTTTGAAAAAATGGCTCTTTATTATGATTATCCAGATGAAATTGGGGTCAAAAAGGGTGT
   TACGACAGTGATTGATGCTGGGACAACAGGTGCTGAAAACATTCATGAATTTTATGACTT
   AGCGCACAAAGCAAAAACAAATGTTTTGGATTAGTCAATATTTCTAAATGGGGCATCGTT
30  GCTCAGGACGAACTCGCAGATTTAAGTAAAGTACAAGCGAGTT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 410>:

GNMFG29F gnm_410

```
35  AAATCAGAGAAGCTACTGCGAAAGTTGCTGCTGAAAAAGGTGATCAAAATGGATAAGCGT
   TCGGTGCTATGATGGATTAAATTCGTTGGAACTGATTTAGACAGTTCAGTGACACAATT
   AAGAGAAATTAAAGCAGGGCTCCATGAGTTGGTAGAAAAAATACCACGTTGGAAATCGG
   AAACCAACGCTTACGAGAGCATCTCCAAGAACTGAATAAGTTAGCAGGAAATACAACCTGA
   AACTGAAAAACAAGAGCTATCAAAATCTCGTATGAATTTGGAAAACTTTATGAAGAGGG
   CTTCCATGTCTGCAATATTTTATATGGTTCAAGACGTGAAAATGATGAAGAATGTGCCTT
40  TTGTCCTTGATGTTATTTATGGGGAAC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 411>:

GNMFI01F gnm_411

CCTGTCGACCCAGATGGTTATAAAATCGAAGTCATTTCGTGAGTGTTAAAAAGTTTCACTT
GTTCACTTACTGAGCTTTTTGTGTTTGAGAGCTGTCCGAGACAAAACCTGTCTCGACTTC
TTCTCAAACACTTTTTTCAAAAAAAGTGCTACAATAGAACGTATGAATTTATTGAGGATG
5 TGATGTTATTATGACAAAAAAATTATTGGAATCGCTGGCAATCAACTTTTGCAGGCAGC
TGAAGTGTTTACGGTAACCAAGTGACGTACACCCACAAGGTTTTGTCAGCGCTGTTCA
AGCCGCAGGTGGCGTTCCTCTCGTTTTGCCAATTGGCCCCAAGAATTAGCCGCTACGTA
TATACAACAAATTGATAAA

- 10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 412>:

GNMFI03F gnm_412

CCGGTGAGTTGCTGCTTTTAATATACTCTCATCTTTTATTGTTTCTGCTTCTTGATTTTT
GCTTTCATATTCTTTTTCTAATTCCTTTACTTGATTACTTAAAGTTAACTCTTTTCATT
GATAATATCTTCGATGGAATTATTTACTGAATCTTTAATTTATCAGTTTGTGCGATAAAG
15 TCCGTATAATTGTGTAAGTAAAAAGGCCATATAACAGTCCTTTTACGGTACAATGTTT
TTAACGACAAAAACATACCCAGGAGGACTTTTACATGACCCAAGTACATTTTACACTGAA
AAGCGAAGAGATTCAAAGCATTATTGAATATTCTGTAAAGGATGACGTTTCTAAAAATAT
TTTAACAACGGTATTTAAATTTTCAAAAAAACCC

- 20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 413>:

GNMFI04F gnm_413

CCGGAAAGAAAAAATATTACTTTAGTTGAGTTAAGTGAGGAGTTAGGTATTCCACGTTT
CACTCTTAATAGGTATGAAAACGAAGATAGCGAACCAAAACAAGAACTTGGGAAAAATT
AGCTGATTATTATGGTGTTTCTACGGCTTATTTAATGGGGATATCCAACCAAAGGTTAG
25 CGAAGAAAAAGCTTTGACGGCCGCAAAGAAAGTTATCAAGTCTATCTTTCCGACGACGA
TTTAGGAAAAGAAATTCGAAAAGCTCTAATGTATTTAATAAAAAATGATTTAGATAGTGT
CTTAAACAAGCAATGCAGCAGTATTTTACTATCCAGCCGTTGAATGGAATACAGAATT
TCAATCTT

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 414>:

GNMFI05F gnm_414

TGCGCCGCTGATTCTAAATCATTTTGTAAATCGTCGTTACGGGATAATCGCTGCTATTTT
CCAAGTCGTTTTTGCCTTATTTATCTTTTATAATTCTATCGGCACAACTCGTTGACGGT
TATTCTGATTATGTACTTATTCTCAGGATTTCTAGCAACAGTTGTTAAACGGAAACGGAT
35 GAGTGAGCAAGTTTTCCAGCTTTAATGTGGGTAGTGGTCTTTCCTGTTTTTCATGGCGGT
TGTCTTAATGATTTATCAAGGGATGAGTTTAAACAGATGGTAAACGTGGACAGCTTTAAT
TTGTGCAAGTGCAGGAACGGTACTTTCATTTTGTAGCAACAATGGGCTTGCATCCATATAT
CGAATTATTAGT

- 40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 415>:

GNMFI07F gnm_415

CCGGCCTATCGATTTCCCCACATTTACAGTTGGCAACTGGCGGTGGAAGCGTTATGCCCA

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5 TAGTGGTCTATTTGATTTGGATAAAAAAATCAAGGACTATTCTCCTGAAGAGTTAGCATT
ATTTTTATATGCTCCACAACAAAACTAGCTAATCCACCCAAAGAGTGGCCTCATACAGC
TTTGTATGAAGGAATCGTCCCGCGTATGCAACGTAGCATATTGCATACAGACGAAGGCAA
ACGTCATCAAAAATACCTTAATCACTTTGTTACCGTAAAAAGATGTCCTGATTGTTTAGG
AAGTAGAGTCAATGAACGTGTTCTAGCTGCAAAATTAATCAGAAAAGTATTGCTGATGC
TGTTGACATGCCACTCAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 416>:

GNMFI08F gnm_416

10 ATTCCACCTAACTCGTTAAGCACCGAAGCTTCAATCAAGCAAGGGTGCATTTATTTTGC
TTCCTTAGTCAATCGAGCAAAGGATATCGGTTGTGATCAAGAGAGCATCATTCAATCGTA
TAACATAGGTGGTGGATATTAGACTATGTTGGAAAAAATGGAAAGAAGTACAGCTTTGC
CTTAGCGGAATCTTTTTTCAAAGAAAAATCAGATGGGGAAAAAGTGACCTATTGAAATCC
AATCGCTATTAAGGAGAATGGTGGTTGGCGTTATACTATGGAAATATGTTTTATGTAAT
15 GTTAGTGAAACAATATCTTACTACAACGAAGTTTGATGATAAAACCGTTCAAGGAATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 417>:

GNMFI09F gnm_417

20 CGGAGTTTTGATGAAGATTGTTATCAAGAGTGTATGATTAGGTTATATTTAGCTTTGAAA
AAGTTTGAAATACGTGAATGATACATTTTTGAAATAACAGACTCCGTCTACCACTCTTTA
TTATTACTGTTCAAAGATATGTTCAAATACACTTAACTACTTTTGAAAAAATATAAA
AAATACTGAAAGATTACTTCATTTTATTAATTTAAATCTATTGAATCATGTAGAGGTGGC
GTTAACCATGTATTTATTTTATTAGGCATGTTTATAGGATGTTTGCTTGGTATAACGAT
TTTAAATTGTTTAGCCATTGCAAAATATGATGATATGAGTTCTGGAAGAAATTAGCTCTT
25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 418>:

GNMFI10F gnm_418

30 CCGAATTTTTCTTTTTACATCCGAAGGTTTACTACTTCATTATTAAGATGTTCCCAAACA
ATTGCTCTGGCGGTGCCGTTTTATTATAAATACGGTAAACAATACGATCTAATGATTTT
CCAAGAAGTGATTTCCCCGACACCTTTATTTGTACTGTTGCCTGATCGTCTACAACCTACG
GCATCAACATAGAAATAGAGCCCTTCCATATAAATAACAGTGTCTGGAACAAATATTGT
ATATATAAAGGTGTCAAACCAACAACAGCTCAAACGTTGAATAGGTATAGTAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 419>:

35 **GNMFI11F gnm_419**

CCTGATTTTAGCTTTATCGAAAAACCATTAAATTACGAAAGGAGCAACTCGTGAAGAAATT
ATTCAGGATCAATTGGTTTTAGCTGGGGACCCTGCCAATCAGAATTGGTTGGTACGTGAA
AAGGATCTGGGGTCTTTTATTATACCCAACAGTATTTAGAAGAAAGTAATCAAAGCCCA
ACACTCATGACGGTAAAAACAATGAAATGATTGTTAAATGTTGGAATTGGGCATGGGG
40 CAATCGTTGCTTTCAAGAAAAGCGATTACTGAAAAAATTCCTTTCCAAACGTTAGGTGAA
AAGTATTGGCGTACCTTTAATTTATTAACACGGGGACATTTAAAATCCTCCTTGCTTCAA
GAAGTAAACAAGCAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 420>:

GNMFI12F gnm_420

5 CCTACTAGAAGCAATCGCGCAATATCATCGGTATGCAAGCCTGTTGTTGGTTCATCCAGA
ATATAAAAGTTTTTCCCATTAGAAATTTTATGAAGTTCAGTCTAGCTTCATCCGCTGT
GCTTCCCCACCAGATAAAGTAGTTGCCGGCTGCCCAATGTCACATAGCCTAAGCCTACA
TCCACAATTGTTTGCAATTTACGATGAATTTTAGGAATATGTTTGAAAAATTCTACGGCA
TCTTCCACCGTCATATCTAAATATCAGAAATGTTTTGCCTTTATAATGAACTTCTAAC
10 GTCTCAGAATTATAACGTTTGCCATGACAACTTCGCAAGGCACATAGACATCAGGTAAA
AAGATGCATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 421>:

GNMFI13F gnm_421

15 CCGGGGCTTTCAAATTGGCTAGCTCTGTTTCTTTTCAGCCAACAGTTGTTCTTGTTTAG
CCAATTCGTCTTTTGTCTTTCAAGCATCTCAGCTGGAATTCCTGGTTGTTGCTCCAAT
GCGCAAGTGCTTGTTTTCCCGTTTCCAGCGCTTGCCGACCTTGGTTAATGTCCGGCTGAG
CCGAATCACGCAGAGCCGCAACCTGTTCTTCTGGCCGATTTTTTCAGTGCCTCTTTTACTT
GATTTAAGGCCTGCTCTCTTTTCTTTTCATAATCAGAGGAATACGTATTTTGATGTTTTA
20 ATGAACGAAATGAGATTAGCAATTCTGGATACCGTTGACTGTCAAAGGCTTTTTCCGAAA
CCACGCCAAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 422>:

GNMFI14F gnm_422

25 CCGAATTGGAGGGTAAACCTTTTTCAATTTTTGTTAATGCAGGAGAGAAAGTTACTACCG
AAACATTATTAGCCGAAGTTGATTTTGATCAAATTAACAAGCAGGAAAAGATCCATCTG
TCATAGTTGTTTTTACTAAACCTGAACAAGTTAATGAAGTCATCTTAATAGTTATACAA
CTATATATGGTGATTTCGTGTGGTAAAATTATACTTTGACGTAGAGTTAAGTATGTTATCG
GATTAAATTTAAATGAATAAAAGGTGATTATAGACTGTGAGTTATAGAATTTAAGTAAAT
30 TATATTAACAAAACACCCTACTATTATATAAATCAGTAGGGTGTCTTCTACTTATCCGAA
CTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 423>:

GNMFI15F gnm_423

35 CCGTTTTGCAATTTTACTACGTTACTTACCAGTGAAAAACATTTCCCTTATTTAATTCT
TGGTTTTACTGTAACGCTTTACTAGGAACAATCTTTACAAACATGCAACTTTTAGGAAC
ATCTGTTGCGAGCGTTGTGAAAGACTTCAGTGGTGTATTTAACGCACCTACCAATGTTAGC
AGTCGCTTTAATTGGTTTCGCTTTAGCCGCAATTAGCTACAAAAATGGTCAAATGATTCC
GAGTGGGCCAGCAGCCAAAAAGAACATGCAGCGAATGATTACAGCGAAGGAGAGATTGA
AGATGACGAAATCTAATTATAAATTGACGAAAGAAGATTTTAAACAAATTAATCGCAGAA
40 GCTTGTTTACTTTCCAAAnTTAAAnGGGGGGGTTTTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 424>:

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GNMFI16F gnm_424

CCAGCCATTGCAGTCGAAGAAGTTGATTTTTTAACGGAAACAATTAAAGAACCGAACGCA
 GTAGTAGTTCGGTTCTTTCAAAAAGAGGCGTATAAAGGGAGGAAGAAGGAATGGAATTT
 GTAATCATTTTGTGTAAGTCATTGCTTATTGGTGGTTTACTAGGTTTTCAGCTGGCGCA
 5 GGCCTGCTCGGATGTTTCATGCACCACAAACGCAAGGGTTAGGGGCATTTAGAACATTA
 GGAGAAATGAACGCGGCACAAAGGAGATCCAGCATCACACTTTCTTTTGGTTTAGGTTTT
 TTCTTTAATGCTTGGGCTTCGGCCGTCGGAGCAGGGGCCTTACACAAGATGTGACCCAC
 CGGAnTTGTTT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 425>:

GNMFI17F gnm_425

CTGAAGATTATCATCATGTAAATATACAGATGAAGCGATTAACGCAGCAGCAAACCTTAT
 CCAATCGTTACATTCAAGATCGCTTTTACCAGATAAAGCGATTGACTTGTAGATGAAT
 CTGGTTCAAAAATGAATCTAACTATCCAACCTCGTCGATCCAAAACAATTGATAAAAAAT
 15 TAGCAGAAGCGGAACAACAAAAACAAGCTTCCGCAGAAGAAGATTTTGAAAAAGCGG
 CTTATTATCGTGATCAAAATCAATAAATTACAAGCAATGAAAGAAAAACAAATCAGCGATG
 AAGAAACACCAGTCATCACTGAAAAAGATATTGAAGCCATTGTGGAACAAAAAAGTGGCA
 TTCCTGTCGGTGACTTAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 426>:

GNMFI18F gnm_426

CCTGTGAATAATCCAGCCAAATTAATCGCTTTAACTGCCTTAAGTTCTGTGGGAATTAAC
 TTACTAGTTGGCGAACAATATTTGTCAATTATTTTACCAGGGGAAACATTTAAATCCTCA
 TTTACTCGTTTAGGTATTGATAAAAAATTTAACTCGTACTTTGGCAGATGCTGGGGCG
 25 GCAGTCAACTCGTTAATTCCTTGGGGAGTTAGTGGTACCTTCATTATGGGAACGTTAAAA
 GTTGGTGCAGTAGAATACTTACCATATGCCTTTTCCCATTGCTTTGTCCTTATCACC
 GTCATTTTGGGGATATTCTTAAAAAACAACAAGGGGAAAAACAAAAAGCACCAGGGACT
 A

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 427>:

GNMFI20F gnm_427

CGAGGGACTTTACAATCAGTTGGTCAGGTTGTCGCCAGTGCCAATATGGTCAATGAGAAC
 GCAGTTCAACTTGCGATGCTCTTTAAAATTATGCGGATTGTCCTACTCGTAGCAGTTGTC
 TATTTATTTGGACGTTTCAAGCAAAGTAAGACGGCAGAATCAGAGGCTGAGTTGGTAGAA
 35 GTCACCAAAAAAGCAGCGCCCTACCTTGGTATGTAGTTGGCTTTTTCATTGCCTGTGTC
 TTTAATAGTTTGATTCATTTCCCGTCGTGATCAGTGAGACTGCTCATTTCTTTAGTTCT
 TGGTTTGAAATTACTGCCTTGGCAGCAATCGGGTACGACTCGATTTTAAAAAGTTTTTC
 CA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 428>:

GNMFI21F gnm_428

CCGGCGCACCAACTTGGAATGGCCGAGAATATGTACAACGCTTAATCGCAGCTGCAGGTA

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5 TCAAACAAGACTATAGGACGTCATTAGCCCAAGCTCAATTAATTAATTGGTGTATGTTCA
ATGGGCAATGGTTAGGACAAGTAAGTCCATTAACAGTTGATGAATTTAAAGTTGTCAGCT
CGCCTAAAACAGCTGCTTATGCGTTTGAATTAACCTTTGAACGTCCAGCTGCAGCACATC
CAGAAAGACAAACCTATGCACAAGCATGGTATGACAAATTCAAAGATTTGAAAGCTTCTA
10 CTGCAACAGGAAAAGCTGGCATAGAACATTTGGAGACCTTAATGGGCAAATGGCTTGGA
ATGGGCAATGTTATGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 429>:

GNMFI22F gnm_429

10 CGAACTGGTTGCCAAAGAACTCTACCAAGACTCGACTGCAGCAGTTAATCGAACTTTTCC
ATATAAAGAGCAACTTTTTACCATTGTTGGCGTGACAACCAATACCAGCGGTGCCATTGG
TCCAGGTAATGATGACTCATTGCTTTATTTTCCAAAAAGACCTATGAACATTATTTTCGG
CAAGCTAAAAGATACATCTACGTTGAAACTAACAGTAGCACCTGGCTATCAACCAGATCA
AGTATTGAAAGAAACAATAAAAACTCTCTCTCAACAAGGAACCATGAAAAACAGTGGGAC
15 GTATCAAGAATATAATGTTAAAGATACCATCAAAGAAATGGGCTCTTTATTAAATAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 430>:

GNMFI23F gnm_430

20 CCTGATTACGGTCGTTATTATGATGCCGTTTATGAAACGTTGAAAAATGGTGCAACGCAA
CTAGTAACTAAAGAGCAAGCATTAACTAACATCGAAATTTTAGAAGCAGGTTTTCTTAAC
CCAAGTCCAAGTGTATCATTTGAAAGAAAACATAAGCGTATTTAAATGACTTGAAAAG
CGCCTGCCCTACAGTCCAGACAACGTGGGGCAGGCGCTTTTATTTATAAGAATTGTGA
ATTTTAATATAAGAAACGTATATGTTAGTAAAAATAAAAAAGGAAGACATCTTAGTA
GCACACTTCCCCAAGAATTGCTACTAAAATGTCTTTTGTGATGCTCGCTCAATTGAAGA
25 GCCTTAAATAGGATAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 431>:

GNMFI24F gnm_431

30 CCCCTAAGTAATGGTCAATTCGGAATATCTTGTTCAGGAAATGCAGCACGAATTTCTT
CATTTAATTCGTAGGCAGATTCATAATCAGAACCATAATGGCTTTTCGATAATTAGACGAT
CAAAGCCTTCTCCGAAATAATATGTTGTGATTTCAAGTGATTAACAATGGTTCCAAAGA
ATTGAGGGGCCATAGCTAAATAGTAAACATGATTGCCTTCTAAGTGGTATTGTTCAATTA
GGCGATCAGATAATTTCTTTAAGGTATTATAATGTTCCGTATCATTACATTATGTGATT
GGTAATAGAAATGACTAGAAAATTCAGTTGCCTCTTCGGCCGTGGGATTTAAGTCTTGAA
35 TG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 432>:

GNMFI25F gnm_432

40 CCGGTTCTTTCTAAAGGTGAAAATAAGGAAACGCCATCTTCCGTTTCGATGACTAGCCAAG
GCATAATTGTTTTTCCCATGACTTGATCTTCTTTCATGGTCCCGGCACCAAGTTAATAAA
GCGACATTGGACAATCCTTTAAAAATGGGCAAATTAATTCGACACTTGGTATCGCAATG
GCACCAATCACAGGTAAGTTTTGTTTTCAAATTGGGCTTTCATCACCGCTTCTGTGCTC
AAGGACTCAACTGAATCAAAGTCAAACGTTGTTTCACGAGCCATATTTTCTTCACATCA

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GCTGGTTTCAACTTGCTAACGGCGTACGAGCGGCTATTTTGTGAACCACTACGT
ATCTGATTGTTAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 433>:

5 **GNMFI26F gnm_433**

CCGGCGTAAATAAGAAGAAACCTTTACTTTTTTTAAACAACCAAGTACCTATGCCAAATA
CAGCTAATGAAATAATAATGCCAACATACGGATTCATGCGCGAACCTCTCCTTTCGCTTT
CTTCGTTGCTGCGGGTTCTTTTTCTTTTCGAGCATCTTTCATATGCAATAAAAAAGGCGCC
CGTCCAACCAGTTGTTGCTAGTAACGCTAATGTTGCTACTAAAATAACAAAAATAATTTG
10 AACGCCAAATTGTTGCATAATCCCTAAAGAATTAAGTAAAGGAAATCCCTGAAGGAACAA
TAAAAATGTAATAACCGTTGATAAGCTATTACCTAGCCCTTCCACTTGCTCCAATTTAAC
AACTATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 434>:

15 **GNMFI27F gnm_434**

AGTTTATCTTTGGTCGATTTTCCTTGATATATATATAATCTTCAGGAAATGCTCCTGTCT
GTTTAAAATTCGGAATTTTCAGAAATTATTCTTTTTTGCTAAACTAGTTATAACTGGTTAG
TAAAAAGAAGTATTGGACGAATAGTGCTGAAACAAGTGAATGATCCAAAGTATAAAGAAA
AATGAAACCGATACCACAAGACAAGACTGTTGCTGAAAATGGTAAGTGATCATTCTGCTA
20 AGTTTAGTGTCTTAATGTTTAGTTAACTAAGAATTGTTGGATTGTACTTTAGAAAGAAGG
GACAATATGAAGCGAAGTAAATGGAAAGAATTGATAGTAACGGGCATCTGCCATATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 435>:

GNMFI28F gnm_435

CCCTGTAAATCGTCTTCATATTTTCCATTTCTGTAAGTGCAATAGCTTTAGGATAATC
25 GAAGCTAGTTAAGTAAAGATGCGCATTCGGTACTTGCTTTAAGTCCTGAATCATCTCATC
CACATCTTTAGTTGCTAAAGCTGAAAATAAAATATGAATCGTGTGTTGTGGAACTCTTT
GCGCAAGTTTCAACTAAGCGTTTTACTGCATGATCATTGTGGGCACCATCTAAAACAT
CAACGGTTCATCACTAAGACGTTCCATTCGAGCTGGCCATTGCGCTTTAGCCAACCTTG
30 AGTAATGTCTCGTTCTTTAAATGGCAAATGTTGTAGTTGGCAATACTTGTCAAATAATTG
AA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 436>:

gnm_436

CGGAACGAATGATGCCTGAAGAGCGTTTATTAGTGATGCGCCGTTTATGTGCGAAAGATA
CTCCAGCCTTTATAGTATCCAGAGGACTAGAAATCCCCGAAGAATTAATTACAGCAGCAA
AAGAAAATGGCGTTTCTGTATTACGTTACCGATTTCAACTTCCCGTTTACTAGGGGAAC
TATCCAGTTATTTAGATGGCCGTTTAGCTGTTGCGACAAGTGCCACGGAGTTTTAGTTG
ATGTTTATGGACTTGGTGTGTTGATTCAAGGAGATAGCGGTATTGGTAAAAGTGAAACAG
40 CTTTAGAGCTTATTAACGTGGACATCGGCTAATCGCAGACGATCGCrTCGATG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 437>:

GNMFI31F gnm_437

5 TGACCAAGAAACGGTGGTCATTGAAATGGCGAAAGCAACGGAATTGAATTGGTTAAAGCA
GCAGAACGCAATCCCTTGATCACTTCTACTTATGGTACAGGAGAGATGATTCAACATGCG
CTCAATCATGGGGCAAAAAAATCATTATCGGCATTGGTGGTAGCGTGACAAATGATGGG
GGTGCAGGTATGATTCAGGCACCTGGTGCGCTTTGTTAGACAAGGAAGGGCAAGAATTG
ACACGTGGCGGTGGTGCATTAGATAAACTGGCGCAGATCGATTTAACACAGTTTGATCAA
10 CGCATTTTTGCTACCGAAGTTCTAGTAGCAAGTGATGTGAATAACCCACTAACAGGGCCA
ACAGGGGCGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 438>:

GNMFI32F gnm_438

15 CCGCTTGTCAATCTATCACTTTGGTTGTCTTCTTTTAAAGAAGGCAAGATTTCTTCTTTA
TAAAGGGTTTGATAGAATTTCGTTTGATTGTTTATCCAAAGAAGCTTCATACTGATTTGTT
GCTTTGCGCCAGACAAAATGAATTTATTGGCATCCGCTTCGATTTTGTGCCATCAATA
TATAGCGCTTCATTGTCAATTACCTGATTGGTGATTAATTGACAGCGGAATAAGACAAAG
GCTTCTGTAAAAGGTGAGCAGTTGTTTCTGACTTTGGAAGCGATTGATGGTCCGGTAA
20 CTGACTTGTTCGTGGTTTGTAGCCAACGCATACGATAGCTGTCTCTAATAGAAATCCA
A

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 439>:

GNMFI33TR gnm_439

25 AAAGCATTCTCAAAATTCTCTCGCTATACCGCAGACGGTAACAAGCCGTTGGCGAAATC
AAACGACATTATACGGCACACCCGCCGAAAAATCTCATTATCAAGGGCAATAATCTGATT
GCCCTGCATTGCGTTGCCAAGCAGTTTAAAGGCAAAGTGAAACTGATTTATATTGACCCG
CCATATAACACGGGTAATGACGGTTTTAAATACAACGACAAATTTAATCATTCCACTTGG
CTGACTTTTATGAAAAACCGTCTAGAAATCGCCAAAGAGCTGCTTATGAAAGACGGTTCTG
30 ATTTTTGTGCAATTGACGACACCGAACAGGCACATTTGAAAATTTCACTGGATGAACTT
TTCGGAAATGAATCATTTTCACCTGCACTTTTATTTGGGAAAAAAGACAGGTGCGTCCGA
TGCCAAACAGATAGCGACTATTACATAGTTTGTCTTATGTTACACAAAGAACTTTAAAC
AGTTAAATTAGATTTAAACACGTTTTTCATATGATACAGAGAGATACAAATTAAGTGATAA
GTTTGAACACGAGAGAGGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 440>:

gnm_440

40 CCGGCAATCCATATGTGATGGGCGCAATTTTAGGTGCTATTATCCCGATTGTTGGTATGA
CACCGTTAAGTTCAATGGTTTAACTGCCCTTGATTGGTTTGACTGGTGTACCAATGGCTG
TCGGTGCCTTGACTTGTTACGGCAGTTCCATTGTCAATGCGGCGCTATTTAAAAAGTTAA
AACTAGGCACAGCTTCAACCCCGTTAGCTGTGGCAATTGAGCCATTAAACACAAGTCGATA
TCATCAGTTCCAATCCAATTCCTATTTACGCAACGAATTTATTTTCAGGAATGGTTAGTG
GCATTGTAGTGACCTTCTTTGGCTTAAAGTACCTGTACAGGAATGGCAACACCGTGGG
CTTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 441>:

GNMFI35F gnm_441

5 CCGACATGTGGTCCATCACCCGAGGATGTAACGTTGCTGGTTGGACATTCAATGCTTGCG
TGTCTTCTTCAAAGGCTTTGATAAAACGCTCCGCCACTCCGGCGCAGTAATTTCAATT
CTTTAGCTGCCTTGATAATTTTATCATCGACATCTGTAAAGTTCGAGACATAATCACTT
CATACCCACGATATTCAAATAACGACGAATCGTATCAAAGGCGATCGCACTGCGCGCAT
TACCGATATGGATATAGTTATACACGGTTGGTCCGCAGACATACATCCGAACCTTACGCG
10 CCTCAATTGGCGTAAATACTTCTTTTTCTCTGGTCAATGTATTATAAATTTAATCATGC
CCTTTTCCACCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 442>:

GNMFI36F gnm_442

15 CTTTAAAAGAATTCCTTTCTAATATTGATGAAATTACAGATTTAATAAAAGAAAAGATGG
ATGAAACTGGTATTAACTATTGTGGAATACTGCAAATATGTTTTCAAATCCTCGTTATG
TCAACGGCGCACATACTACAAATAATGCAAACGTATACGCTATCGCAGCTGCTCAGGTAA
AAAAAGGTTTAGATGTTTCAAAAAATTAGGTGGAGAAAATTATGTTTTTGGGGTGGAC
GTGAAGGATATGAAACATTACTAAATACTGATATGAAGTTGAACAAGATAATATTGCGC
GTCTATTCAAATGGCTATATTTTACGG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 443>:

GNMFI37F gnm_443

25 CCCGTTTCACTCAATTACAATCTCTACCAACCAAGTAGCGGACCATCTAATTGATTTAGG
GCTGGTTAGTTCCCTTTGATATGTGTAATCAGCGGATTTACCTTTTATGAATCCGTTAG
TAAAAATGCGGCCCTTAACAGTTTGCTAAATTATCGCGATCCTTTAGGTACGCACTTTCA
ACGAGCAACCGCTGCCGAATGGCTTCAGACACAAGGCGTTCGGACCAATGCCGAAGAAGT
TGCCATTGTATCTGGTGTCCAGAATGGACTGGCCGTGACGTTAGCCGCCGCTTTTTCTCC
AGGTCAGCGGATTGGCGTAGATCGATACACGTATTCAAATTTTATTGAACCTCGCACAGCT
TTATCATTTAGAAAT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 444>:

GNMFI38F gnm_444

35 CCTGAATTAGTTATGATCATTTCTACGCCAGCTATTAACTTGTGACGACTGTTCTTATT
GAATATGTCATTTTTTTTATTGTTTCAGCATCTTTTTATCTAGTGGTAATTGGGGTGATT
GAGTTTATACATTGTTTGTTCATTCTTTTTGAAACGAAGAGTGAACAAATTAATAGT
CTCAAAGTGATAGGTGATAGTTTATTAATGATTTTGCTACTTTTATTTTTTTGATTTT
CGTTATGGTTTAGAATTATTTCTAGCAAACCAATTGTGGAGTATCTCCTATATGATTCCT
ATCACTTTTTTCTAATAGTGGTATGTTTAATGCTTATTAGTATAGGCCTATTAAGAC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 445>:

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GNMFI39F gnm_445

5 CCTTCAATTTTACTGTTTAGCTTAAGCTGATTGAATAGAGTATCAATTTCTTCCCACG
GGGAAAAGTCGAAGAGACCAATTTCTCTTCGACTTTCTTTGTATAAAGCAGAAACAACTT
CGATTCCCTTAATCGTTACTGCAGCTGTATAGGTGGACTGAAAGTTGTTGCCATAAGGAA
GCTTCCCTTCAACTGTCGGTGATCCTGTTCAAGAATATTATTGAGGTATTTTCGACTTCC
AATGCTTCACCTTTTGGTATAGAATTCCTTCTTTCAGCTCTTTGATCGCTTTTAATG
AAGGAGCATATTTATCTGTTACAATGGAACGTGGTTGACCGTAGACTCTGATTAGACGCT
TGAAAAAGAGCTTTA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 446>:

GNMFI40F gnm_446

15 CCAGAAATCATGACAATGTGAAAGTATCGTATGCCTCATTGGAACGCTATTTAGAAGATA
TTCATCGCATGGTGGAAAAATGGTTTACTTTCTGAAGAAAAAGAATTTTATGCGCCTGTGC
GCTTACGTGGCGGGAACAAATGTCTGATCTGCCTAAACAGGTATTCGCTATATCGAGT
TGCGTAATTTAGACTTAAATCCTTTTTTACGTTTAGGCATTGTGGAAGATACTGTGGATT
TCTTACATTATTTTATGTTGATTTATTGTGGACAGATGAAAAAGAAGAAGCGGATGAAT
GGGTGAAAACCTGGGGATATTTTAAATGAACAAGTGGCTCTTGGTCATCCTCATGAAACGA
nTTAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 447>:

GNMFI41F gnm_447

25 CCTCCTTGGCATGGCAACTACTGGAAGTATGGCAAATACACAGTGACTTTAGAGCCAGG
GAAGGCCCTCAGCTAACGAAACAATAACTGTCGTAGCGAAAAATGCAACAGGAAAAGAAAG
TCAGCCAGCTACAGCAACTACACCAGTCGACTTAGCCACACCAACCATTGATTCTATTAC
CGGAAATTCTAGTAAAGGTTACGAAATCACTGGAACGGCGGAGCTAAAAACCACTATTGA
TGTCGGTGACGCAGACGGAACCATCATTGCTGCTACAACGTAACGAAACCGGCAATA
TACGGTGACTCTACAGCTGGCGTAGTGACACCAGGAGAAACGATTACGATTATTAGCAA
AGATGGCGCAGGTAAnTGAA

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 448>:

GNMFI43F gnm_448

35 CTGCTTAAAAATACTGTTTTAGTGAGTTTAGGTACGAATGGTCCTTTTACAGAGGCACAA
TTTGATGAATTTATGAAAGCGTTAGGTAATCGAAAAGTTTATTGGATTAATGTTTCGCGTC
CCAACTAGAAGATGGCAAAATCAAGTGAATAGTTTACTTAGTCAAATGGACAAAAAATAC
GATAACTTAACGGTCATTGACTGGTTAATTATAGTAACGCCCATGATGATTGGTTTTAT
GATGACCGAGTTTATCCAAATGTGGCAGGTGGCGAGCAATACACACACTTTATCGCGGAG
AAAATTTTACAGTAGCAAGAACTTCCAGCTCAGATGAAAGGGGCTGGAAGTTTTTTGTT
ATAGGAAAAGCAAAT

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 449>:

GNMFI44F gnm_449

CCGTGGAAAACTTTTGTTAAAGCTAGAGCTAATAGATAAACGAATCGAACGCACATTAT

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5 TTCGACAAAAACATTTTGGAGCGGTTTTGGGCTACTCTTAAGCCTTTAGAGCAACAATTGC
TCATTAGGCGATTCAAGTATAAAGAAGAGGTTAATTGCCCTCACAGGCTTATAGAGAGCG
TATTAGATGAGATTGAAGAGATAGAAACAGCTATTTGTTTGATGGAAAATATAGAATTAG
AAGAAAACGAGCTTTCCGACGATGTAGAAGAAAACCTTAGAGAGGATGTGTGACTTCTTTG
CTTTATGAACGTATCCGTCCAGAGTTTCATCTTGACGCTGGATATATTACGAAAAGCA
CG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 450>:

GNMFI45F gnm_450

10 CCTGATCCTAAAAACGGCTTTGTTTATAGCTTCCTCATCGTTGAAACAATTCAAATGGT
GCAGAAATCTCAGCGGGGAAATTAGCACCCAATGAAGTGGTGTACAGCTGTGGATGAT
TATACATTAAAGGTGACGCTCAAAGAGCCAAAACCGTACTTTACGTCCTTGTTAGCTTTT
CCGACATTTTCCCGCAAATCAAAAAGTAGTCGAACAATTTGGTGCGGACTATGGAAC
GCTAGTGATAAAGTCGTCTATAATGGTCCGTTCTGTTGTTAAAGATTGGCAGCAAACAAG
15 ATGGACTGGCAACTAGCAAAAATAATCGCTATTGGGATCACCAGAACGTGCGCTCAGAC
ATTATCAATTATACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 451>:

GNMFI46F gnm_451

20 CCCCCATTTTAGAACGGATCATGAATCAATATCAAGAAATAGCTGCGGCTTTACGCCAAG
CGTTGCCGCAAATTTTCCGCAAAGAATCTATCGGAAGAGGAAATGCCTACATGGTGC
TTCATTTTGCCAATTCTTTAGAACGGAGTCCCAAATATGGAAGTTGATATTGCTGGTT
TTTCTCCTAGCGGTTTGGCTTCGACAAGTATGCTGGAATGCGATTACGGCGCTACTTTC
CTTTTATCAACCAGATTCAATTTTTCGGATTGCGGATTTAGGTAAGGTGAATGTTGAGG
25 AAAACTATGACTTAGTGATTTCCACTTCGTTATTACCAGGATACAATGGTAAATATAAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 452>:

GNMFI47F gnm_452

30 CCCGTTGCGCTACTTGCTGATGTTGCTTCCTTAGCGCTACTTGCTACTGTGCGGACTACTT
TCAATCGTGATTGTTTCCGCAACTGCGGTGCGGCCAGAAAAGGCGTTAATCACTAAAGAA
CTACACAAGCCAATGGTTGCTAATCGTTGCCACTTAGTTTGCTTCATGTCGTCCTTCTT
TCTCTGGACCATTCCGACAAGACCAATCAAGACAAGACCAAGAATGCTCAGGTTTGCCCTG
ACTCTTGCTTCCTGTACGAGGGAGCTGCGAGCCAGCTGTGGTGGTCTGTGTGCAACCACC
ACTTCGTTGATCTCCTTGAGAGGACAGCTGGTTCCTTGGGATCCGCAGCTGGGCTCATC
35 TGTTTTCGGTGGGGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 453>:

GNMFI48F gnm_453

40 CCTAAGATTTGGCTTATGAGCTTGGGACAGCGCTTAAAAACGTTTGTCTCTTTGCTGATA
AGTCCATTTTATATAACGGAGGTGGCTAGAGTGAAAGCCTGTGGCATTATCGTGGGAATA
TAATCCCTTTCATAATGGACATCGCTATCATGCCAACAAGCTCGCCAACAAGCGGACT
GATAGTAGTGATTGCTATAATGAGTGGAATTTTACAAAGAGGAGAACCAGCCTTACT
AGATAAGTGGGCCAGAGCAGAAGAAGCTTTGCAAAATGGTGTGGATTAGTCATTGAATT

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GCCGACAGCTTGGTCGGTACAGTCTGCGGATTACTTTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 454>:

GNMFI49F gnm_454

5 CCGGAGCGAGTACCCAAAAATCGCGTGGGAACCTTTTGCTGAATATATTGCAGTGGATCAA
 GCGGCTGTAGCTATGAAGCCGAAAAATTTAACGTTTGAAGAAGCTGCGGCCATTCCGTTA
 GTCGGTTTGACAAGTTATCAAGCGCTACATGATATTATGAATGTACAGCCAGGCCAGAAA
 GTCCTGATTCAAGCAGGTTTCAGGAGGGATTGGAACCATTCGCGATTCAATTAGCAAACTA
 GCAGGCGCTTACGTTGCCACCACAACGAGTAGTAAAAATAAGAATGGGTTCAAGCGTTG
 10 GGAGCAGATGAAGTGATTGACTATCGGACACAAAATTTTGAAGAAGTTTATCCGACTAT
 GATTATGTGTTTGATACAATGGGGGGGACAATCTTAGAAAAAGCTTTCTCAGTGGTTAA
 CCTCAGGGAAAAGTTGTTACATTGTCAGGCATTCCCAACGAACGTTTGTCTAAAGAGTAT
 GGCTTGCCGCTTTGGAAACAATGGGCCTTTAAATAGCTACCCGCAAGATTG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 455>:

GNMFI51F gnm_455

CGGAATTGTATTTACTGCAGAGACAGTTTAAGGAGGACACGCAATGAGCAAAGGTCCGTT
 AGTCACTCGGACAGAGCTTCGCAACGCAGAGAAGCAGAAGAAAAAGAAGCGGAACGTCG
 TCAGCAAGAAGAGCAGAAGCTGGCGGAAAAAGCGTATAAGCGAAAAGAAAAAGAAATTC
 20 GACGTTTTATCGTAAAGAAAAAGAAAAACAAAACCGATCAACAAGTCACGAGTAGGAGA
 ATACTCGAAGCGTCGAGAACGGAGTACTTGGTTAAACAAGGCAATTATTATTGTAGCGAT
 TTTATTAGCCGTTGTGGCATATATCGTTTTGAATTTATAGAAAAGAGGAATCACTATGAA
 AATTGGAATTATTGGAGCAATGGATCAAGAGGTCAAATTCATAAGAAAAATTGACAGA
 CACGATGTCATGGGAACGAGCAGGCGCTTTATTTGTTTCTAGTTCGTTAGGAAGACATGA
 25 GGTGATTGTAGTTTCGTTTCAGGAATTGGTAAAGTGGCCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 456>:

GNMFI55F gnm_456

CCGGGGTTGAAGGTGTACATGGAGAAAAACAAGTTGAGAAAAGTGGGCTTAAGTGCCTG
 30 GAATGGCTAAACAACATCCAGAAATTAAACAACATAAAGAATCAAGTCTCTATGAACAG
 TTGTTTGCTAGTCAGCAATGGCAACAAGCACAAACGATCGGAATGATTCCGGTCGTTACCG
 CTAGAATTATCAACACAGCCAATTTTCGAACGGGCCATGCAAGAGAGCAAGCAAGTGGCG
 GTGCCGCGAACATTTAAAGGAGGCAAAATGCACTTTTATCAAGTCTTCCAGAGACGGTT
 TATGATACCAGTGCATTTGGCGTGGAAGAACCCTCGTTAACAGCGGCAGAAATAACAGCT
 35 ACAGCGATTGATTTATTGATTGTGCCAGGGATTGTTTTCAATCGTGCTGGCTATCGAATA
 GGCTTCGGCGGTGGTTTTTATGATCGAATTTGGTACATTTTTCGGGGCATTATGTAGTT
 TAGTTTTACGTGACACTCCCATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 457>:

GNMFI56F gnm_457

CCGGAAAAGTCGCTGGCCTTGGCACCCACGAAGAATTACTTACTTCTCTAAAGAGTATC
 AAGAAATCGTTGCGTCACAGGAGGAGGATACCATGCAAACTAAAAAATTCATTTTGGTG
 CCTTCTACGTTTTAAGCCGTATTTACTACGCTATCCAAAAGAAATTATTGGCGCCTTAA

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TCCTAGGAATTCTCAGTGGTTTTTCGACTGTCTCATGACTTATTATATAGGTAAATCCG
TTGATACAATGGTGGGTAAAGGACAAGTCAATGCTGCGCAACTCATCAAAATTTTAGGTT
TATTAGCAGGGATTTTACTCGTAACCGTTCTAAGTCAATGGCTGATTCAACGTCTCGGTA
ATCGCGTGTCTTATTTATCGACCACACAGCTGAGAAAAGATGCCTTTGCCCATTTAAATC
5 AATTACCGTTAAGTATTATGACCAAACGTCACACGGAATATCGTCAGTCGCTTTACCA
ACGATATTGACAAATATTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 458>:

GNMFI57F gnm_458

10 CGCGGTTCGTTTATAAACCATTTAGAACCGTTAGACACACCAACGATTCATTTTGAAAAATT
ATATGGACCTGATCAGAACGGGGCATATATTTATCGAATAAACGACTAGTGATTCATTCA
TGGAATGAGGTTTGAATATGGGAAAAGTATTGAATAGAATCGGTCGACTTATTTTATTAG
TTACAATGATCGGCTCGTATACGATGTGGGTCGTAGGAATTGATGCGCCAGTCACAAAAT
ATATGTATGCCAATAGTTCAATTTTATTATTAATAGCAGTAATACTTGTACTGCTATTAA
15 ATTGTACGATATTAAAATTTATTGACTGGCTGACCGTAGCGTTGGCGCTAGCAACCTGGC
TCTTGTTCCTTTACGGAATCAATCCGTCATAGCACGATGCAAACAGATACAATGATTC
CTTTAATTATTTTATTGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 459>:

GNMFI58F gnm_459

20 CCTGCTGTGCCGTTGCGCCAGAAGGAAGCATCAGCTAGAAGTGGTCAATTTTTTCTTGG
AAAACAGACCATTTTTCTCAGGAAATTTTTTTTCAAAGCGTGTTTTGCCGCTTTTGCA
AAATTTTTCAAACAAGCGAATCTTTTCTACGTTTGTATGAGCGACATGGGTGTTAAAC
AAGAAAGTAACAAACGGTCCATGAACCTTCTTCAGAAAATAATGTTGATAAGCTATCTTAT
25 TTTTGATTTGCCATAATAAAATCCCCCTTCTAAAAGTAAGTGTAGCACAGGAAATCGAAT
GTTTAAACAATATGTTCAATAAAAGAAAACGCTTCACTAATCTCAATAAAGGACTGTT
AATGGTGTTCTAATAAAAAGTTTATAAAAAATATAGCTGAAACTCATGATAAAAAAGGCA
CAAACCACTATACTTACGTTATGCCAATTATCCCGAATTGGTATGTTCACTTACTCCT
ACCAAGAGTACATAA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 460>:

gnm_460

ATCTATAATTCCTGAATCTCAAAGATCAATTATTCAGTTAATCTATTATTGCCATCTAA
CAATAGATGATTACAACATAAATCATTATGGCATAATCACTTTTTACCCTCAAAAACCTGT
35 TGTTCGATTTAGTCTTTCCATAAAACTATCTATATAATCTTTTCTATATCAGTTAAATC
ATTATAAATAGTTTTCACGCAACAATATATACTCTTCTAATACATTTTGTATTATTCAAT
AGTACATTCACATAATATCTGTATAATCTAAACCGTGCAATTTGTCTTAAAAAAGTGGCAAT
ATCTCGTTTTAACAATTTTGTCTTCTTCTGACATAGTAGAATAAATTTCTGGTGTTAA
AAAAGTTCCCTTAATTTCTTTATAACCTAGTATAGATAATTCATCACTAATATACGAATA
40 TTCAATATTAGGAATTTTACATTAGTTTCTAAATTTGTATTTAAAAAATTATATATTGC
TTTTTCTTTTGCAATAACCTTTTTCTTATTAGTACTAAATTTGTTTTAAAAATGTATTC
ATTATTAATAAATATGCCACACTATCATAACCACTACCGATTATTTCAATACTATCTAC
TTTGAAATTATCAAAGTAATGCTCAATTAATATTTTATTGCCTTAACATTTGTGGCATT
ATCATCATATCTATATTCCATTAAATAACAATCTTCTTTTTGCCCTCGTGAATTCATG
45 TTCTGGCAATCTTCAATAATTCTAAAACAGATTTTGGTATGCCCTTATTGCTCTATG
GATTATTTTTATGAGGGACTAAAATAACTGCATTAGCATTTCTTTCGATTTTCAAAAAT

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CAAAAATCAATTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 461>:

GNMFI60F gnm_461

5 CCTGCAAAGGCTCTTACTTCTTTGATGTCTTTAACTCCAACTTATGCCCTATCACATTT
ATTAAGTTTAGCACCCCTTTGGTCAGTTATCCCATCTAAATGATCTAAAAAATTAGAATAA
TTTTCTTTTCTAAAGCTTCTTGCATGTTTGTCTTAAACGATTTTAAATCGAGT
TTAGTTGCACTAACTTTGGATGATTTAATTTAATACCCCACTGCTTACTTGCGAATTCA
TCCAATAAATCACCAACATCTCTTCATACAATTTATCTATGTCATCGCTAATTTAGGA
10 ATAATTGGTATTTTCAGTACAACGGCAACGTCCATGATACGGTGGATGCCAATCATCTTTA
ATCTCTTTTCCATGACGTCCACCACAAATAGAACAAACACGCTCATCTTCTGCCGACCAG
CTTTGTGTTTGCTTAACACCTATATCCTTTAGCGATTTTCTTACACCTTCTACCGCAAAA
TGTGAATATTCCGTTCTAA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 462>:

GNMFI61F gnm_462

CCGATTAATAATTTTATTCAAAAAGCGCGTCGAGCAACAAAAACCATCGGACTTGGTGGC
AATGGTCAGTTTTTTCGGTTATCAATGATTACCGAACACTTAGGCTATCAGCCTTGGGGA
AATGCTTTGTTGGATGACTATGAGTTAACCATTAAATTAATGCTGAAAGAGTTATCGATT
20 GCTTATATTGACGAGGCCTTTATGGCTCAAGAAGCACTGAGAGATGTGAAACGTTTTATT
CGTCAACGnGTGCGTTGGGTTCAAGGAAATTTAGATTGTCTAGCGTATTTACCCAGGGTGA
TTAAATCAAAGTCATTAACGCTAAGGCAGAAGTGTGGAATCTATTATTTTTTAGCGCAAC
CCTTTATTAATCTCGTAGCGGGGATGCTCGTTTTTGTCTTAAGTGGGCTTCAACTGCAAC
ACTTGTATAGGTTAGGCTTTTTCGTTATCGCTTGTCATTAGTTTTGTTTTGGCCGTCAGTA
25 TTTCGTTAGTTTTTCGGCATTTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 463>:

GNMFI62F gnm_463

CCCGGTTTGCAAGCTGCGCAATGCTTAACGTTAGAAGAAGTAGCCAAACAAATGGCTGCT
30 GAAACAATCGATCAATGCCTGTTGCCCATTTGAGACAGCAGTAGAACAAATCCCACGAATT
GATTTATCAGATGAATTGTATCAAAAAGTAAAAAATGGCATGCGTTGCACAAAAAGAA
TTAGGAATAAAGGCAATGCCAGAATCCTTAGTCGCCTTATTTTACCACAAATCAAGTGGTT
AGTTTATACATGCCACACCAACGCATGATAAATTATTGAAACCAAGTAAAGTTCTACGG
AACAAATTAATAAAAAGAAGGAAGTTTTTGCACATGCAAGTTATTCAACTACATCATCC
35 CTATGAACCCAATCAAATTCCTAATGAAGAAGTCGTGATGGTCCTAGGCTTTTTTGACGG
TGTTACAAAGGCCACCAAAAAGTAATTGAAACAGGTAAAAAGATTGCGGAGGAAAAAGG
CTTGAAGTTAGCTGTGATGACCTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 464>:

GNMFI64F gnm_464

CCGAGGGGATTGGCCTGATGGAACGGAAAAACAGGGGCAGGGACATCCCGCCCGGATAT
ACGTTAAAAATTTTATCTTGGAAACCGGAACCCACCGCGCGGTTTCAGACTGCGGAAATC
AGCAGTCAAGACCGCTTCCAGTGCCGCGCTCAAGACTGCTGAAAAACCGCAGTCTGCAC

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CACGGGAACCAGCGGTCAACAGTGCGGCATTTCGCCCTAATAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 465>:**GNMFI65F gnm_465**

5 CCGGATCTAATCCTAGTTGTCCAGAAATGTACAACGTATTTCCCGCTAAGACAGAATGTG
AATAAGGTCTACAGTAGCTGGTGCCTGTGCAGAAATTAATCATTTTGTTCATCGTTT
TCCTCCATTCTATGATTCTTTATTTCAATTAAAGTCCCTGTTTTCCAGATAATCCTTC
TTTGGCTTTTTCTAATAACGTAATCAATGTTTTTCGACCTGGCTTAGATTACAGAACTT
10 AATCGCTGCTCAACTTTTGGTAACATTGAACCTGGAGCAAACCTGACCTTCTTGCGCATA
TTGTTTCATTTTTCTGTTGAAACATTCCCTAAGGCTTCTTGATTTCTTTACCAAATT
AATACAACTTTTCAACTGCTGTTAAATCACGAGCAGATCAGCATCCACTTGTTTCAGC
CAGTCGTTCACTACAAAATCTTTGTCGATGACTGCATTGACACCTTTTAGTCGGTTCCC
TTCTTGAATGACTGGGTATGCAC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 466>:**GNMFI66F gnm_466**

CCGAAGAACTTTTTTGAACCCACATTGACAAATTGCTCAATTGCCTGCGTGGCACC GCC
ACGGTTATCCAAGAGAACTTGCCGAATATTCCTATGCTCAGTGGTTCGATCAAGGACAAC
GATCGAATGGCCTCGTTTCAGCAAACCTTTCAATTTCTTTTGTGGAAATGTCCAATCTAA
20 AATAATTGCCCCATCCACCATTTTTTCAGGAATGATAAGATGTGACTTTTACCGCTGCA
GACAATCATCTCATAATCAAACAGTGCTAAGCCTTTCTTAATCCCTCCAACAATTCACC
ATAAACTACCGCCATAATCAGCCAAATAGACACCAATAATATTGGTTTGACGACGTTT
TAATGTGCGAGCGGGCATGTTAGGAACATAGTTTAGCTCTTCAGCAATTGCTTGGATGCG
CGTTTCGTGTTCTTCAGTTACCTTTGAACACCATTCAATGCGTAAGAAACGGTCGAGAT
25 TGATACGCCTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 467>:**GNMFI67F gnm_467**

CCCTTGATTTTAAAGAATAGATACAGTAGCATAAGAACAACCTAGTTCTTTCCTGGAAT
30 CGTCAATGTCAATAGAAAAGATGCCCTATCTGTATTATCTGAAAAATCAAACAATCAT
AACCAATTAGAAAGGTGGTTATTATGTATAACTTATTAACCAAACAGGAAATTCAGTTAC
TTCCCTAATTGAATACTTGATGACAGTAAAGAAAAAGTCCCATGCAAGTACTCCGAC
GAAAATATGAATTTTCCATTACAATATCAACAATTTATTGAATCAATTAACCTTTGTTAA
TTTCTCGAGTCAATACACATGAAAATGTACATATTTCGTATTATTAATAATCAACAGTCCA
35 TAGAATTAGTCGCGGATGAAAATATCCCGATTGAGTTAATGAAAGAAGCTGTTGTCGCG
GGTCACTAACCTATATGTTAGCCAGGATTTACTTTTAATACGCTACACTTCAGCCAAAG
ATTTTGTGAAGAGCCTTTATTAACCTTTCTATTTTTTAACAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 468>:**GNMFI69F gnm_468**

CCAACTAGAAGAAGAAATCAACTATATCAGCAATCCATTAAAAAGCTAACGGAGCAATT
ATTAATGCAAACCAATGAAGTGAAGCATTACAAAACAAGTAGTCGAAAAGATGTTCA
ACTTAAACATGTTAAAGAAACATTAAGTGATAAAGAAACAACCTATCACTTCTTTACAGAA

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ACAATTGTCTGAAGAAAAGATGCAACAGAGACAGACCAGTGAAGAGAATTTAGACACAGC
 CGTTACGCTTTCTCAAAAAGAAATTGGCGAAGTGTATTAGAAGCCAAACGTCAAGCAAA
 AGATACAATTAGTCAAGCCAACCAACAAGTTGCAACAGTTCATGAAGAAATGGAACAACG
 TTTAGCAACTTTTACACGCATGAAGCAAGTGGCAAGATAGTACCAAGCTTATTGTGAACA
 5 AATGCAGACAATCAAGAATGAATCAACAGGAACGTACCAACAGATAGAGCAGTTATTAGC
 AG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 469>:

GNMFI71F gnm_469

10 CCGGTGTTATTCATGTTTGATTATTCGAAAGAACCAGTAAATGATTATTTCTAATCGAC
 ATGAAGTCTTTTTATGCGAGTGTGCAATGTATAGAAAGAAATTTAGATCCATTAACAACA
 GAACCTGTTGTTATGAGTCGAGGTGACAATACTGGTTCAGGATTGATATTAGCTTCTTCT
 CCTGAAGCAAAAAGCGGTATGGTATTACAAATGTGAGTAGACCACGTGATTTACCACAA
 CCATTTTCCTAAAACACTACATGTTGTTCCACCACGTATGAACTATATATCAAGCGAAAT
 15 ATGCAGGTAAATAATATTTTCAGAAGATATGTGGCTGATGAAGATCTACTGATTTACTCG
 ATCGATGAATCAATCTTAAAGTGACCCGATCACTGAATCTTTTACGACTGAAGGAACA
 CGAAGCCAACGTAGAAAGAAGCTCGCTCAAATGATCCAAGAACGTATTAAAGAAGAGCTA
 GGATTGATTGCTGCAGTAGGTGTGCGAGATAATCCCTTGTTAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 470>:

GNMFI72F gnm_470

CCGGCTCCAACGTACCAACTGTTTTTGAAATGATTGATGATGCCAAAGTAATTCCTGGTT
 TAACCTTAACAGAACTGTCTCTTTAAACTATGCGATGGAAGAAGAAATGGCTTTAACAC
 CCGTCGACTTTTTATTGCGACGGACCAACCACTTATTATTATGCGTGATCGTTTGGACCA
 25 AGTGAAAGCGGGAGTCATTGAAGAAATGGCACAGCATTATCAGTGGACAGCGGAAGAAG
 AGCACGACACATTGAAACATTAGAAAAAGTAATTGAAGAATCAGATTTAAAAAATTTGAA
 AGTAGGGTGAAGAAAAAATGGGAACCTTCGATGATGACACAATTATTCGGTGAATTTTTCG
 GAACGATGATTTTAGTTTTACTAGGGGATGGCGTCTGTACCGCAGTTAACTTGAAGAAAA
 GCAAAGCCTTTGCTTCTGGTTGGGTCGTTATTGCTTTAGGTTGGGGCGC

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 471>:

GNMFI73F gnm_471

CCCGTCTTAAACGGCTCTACACTAGAGAGGTATGTTACAGCATATCTCTCTTTTCAATGC
 TATTATAGACAACGACCATCAAAAGACCATCAATAAAATGCCCGAGCCTCTTATTTTT
 35 CTAAGGCTCGGGCATTTTTATTTAGGGGCCAGTCACTAAATCCACGTGACGGCGGCTT
 GGTATTGTTGGCCAGCCATACCTTGGTTGGCTGGCACTTCTAGTTTGATGTTAGCAAACG
 TGAAGTCCAACCTGATAGACGTCAGTGCCTGTGAAGTGTGTTGCGACCAACGCTGTTG
 CGGTATTGTCGGCGGTTAAAGTCACGGTGCTGGTCTTGCCAAGTGGTGTCTGGTTTCTG
 TTGGTTGGTTGTAATCGGTAAAGCTGGCAGCAGCGGCCGTTTCCTAGCAACAAGCGGGTCG
 40 TTGTTGGCAAGCTGTCTGTGGCTGATTTTGGTTGCAATAGCTGGGCCGTTAACTCCAAT
 TGGCTTGGCTAGTATTACGGCGTAAATTAGGGTTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 472>:

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GNMFI75F gnm_472

CCAGACACAGAAATTGAACGCAATATGATTGAAACGAGTCAACTTGTGAGCCGTCTAAAA
GAGAAGTAGGGGTGTGCAAGCAAATGAACTTAGAAGGATTAACGACAGAAGCCAGAAATG
AAGCGACTAAAAAGATTGACCAAGTGTCAACATTAGAAATGGTAACTTTAATAAATCAAG
5 AAGACCAAAAGGTAGCACAGCAATTGAAAAGGTGCTTCCGCAGATTGCTGCAGCAATTG
ATGCAGCGGCAGAACGATTTAAAAAAGGGGGCCGTTAATCTATTGTGGTGCAGGAACGT
CTGGACGTTTGGGTGCTTTGGATGCGATTGAATTAACACCCACATATAGTGTGTCGCCAG
AACGCGCATTTAGTATTTTAGCTGGTGGTGAAGAAGCAATGTATCAAGCAATTGAAGGCG
CTGAAGACTCGAAAGAATTAGCTATCGAAGATTTAACGCAACATCAATTGACTGCCCGAG
10 ATGTCGTAATTGCGATTGCTGCTAGTGGTCGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 473>:

GNMFI77F gnm_473

CGGAAATAATAGGGATTCTCTCTGCTTTATTAATGTTTATTTTGCTCCTACATTAAGTA
15 AAATAAGTCCAATAGTTGATCATACTGCGGTATCACAGCAATCCGTAGCCTTTATTTT
TTTTATTAATTATTCCTATACTTAGCGCACTAAGAGGGTATTTTCAAGGTCTAAATTATA
GTTTTTCTTTTGGTGTTTCCCACTACTAGAACAATTAGTTCGAGTAGTTTGTATTTAG
TAGGAACCTATCTAATTATAGTTCAATTTAATGGTAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 474>:

GNMFI78F gnm_474

CCCGGTCAAGTTTACTTAGCAAAAGTTGTCCGCATTGAAAAATTTGGTGCGTTTGTTAAC
CTAATTAAGGCAAAGATGGCTTGATCCATATTTCTCAATTAGCAAAACGACGTGTGAAC
AACGTTGAAGATGTCGTGAAATTAGGCGACGAAGTCCTTGTCAAAGTAACTGAAATTGAC
25 AAACAAGGCCGTGTCAACGTGTCAAGAAAAGCGTTATTAAACGAAGAAAACAAAGAAAA
TAATTTCTTTTAAACCAACGAAAACCAAGGAAGCTTCCTTTCTTTTCGTTGGTTTTTTC
GTTGAAAACAAGCCCTAAAAAGAAATGATAAAAAAGCTAAAGACGATCGCCAACCTCTT
TTGTTTATAGTCAATTAGTGGTAAAATTAATACTATCAGTCTGAAGAATATCTGGGGTGT
CTTTGTGAAAAATTTAATCCAAATAAAAATATAATCATTACCTTAATTTTAGTCATTAT
30 TTTAGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 475>:

GNMFI79F gnm_475

CCTTGTTAAAGTTAAGAATACAGCGTTGACATCATCCATTACCCCATAAAGTAAAGCGAA
35 TAATGAGATAACCACAGATTGTGTTAACACAACGTTACGAGAAACGCCATATTTATTTTC
GCGATGGAACCAAATTTTGGTGGCAATAAGCCATCACGAGCAACTGAATAATTGTTTT
TGATGGTCCAGTAACCAAGCAGATAATTGTAATAACACACCTAAGAAGACCATGAAACT
AAAGATATTACCAATAATTGTTGGTAAACCTAAAACGTCACAATAAAGCAAAATTGGTTG
TGTAATGTTAGACAATTCCATTTTGCCATTTGGAACAATATTAGCTACATACATTGCATT
40 AATCAGTTTAATAAACTCACCCAATTAATGACATGAAAACGCCTTTTGTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 476>:

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GNMFI80F gnm_476

5 CCTGGAAAATTGTGGTGCGATGACTTTTTAAACAATCGTACTGCCTAATTTTGCTTGTT
GGCGCTGGTTATTTGCCAGTGTTTGTGCTCGATAGGTAAGTGAAGTCAACCGTTGCCATT
CCATTTGATGAGGTGTGAAAACAACCTTTTCAGGATAGGTAAGGGAAAAATGCCTTGGC
10 TAAACAGGGTAATTGCTGAGCCATCGATAATTAACCATTTGTTGTTTTGATGTTGGGCGA
GTACCATCTTTAATATTTGTTGTGTCAGTAGCATCTAAGCCTAAACCTGGACCAATTAAAA
TAACATCCGCTTGCTCTACGACGTTGCTCAGAAGGACTGTTTCTTCAAAGCCCACGACCA
TCGCTTCTGGGCATCTTGCATGTAAAGGCCCGTTATTTTAAACATCAGTAATCACAGTGG
15 TGAGACCAGCGCCACTATTGATACACGCTTCGGTACTCATGATGATGGCTCCGCATATTG
TCGGTTTCTCCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 477>:

GNMFI81F gnm_477

15 CCAAAATTTTGGTAAACTAAAAGATGGAAGTATTGGGGTAAAAGGTGGTTGGCGAATTTA
TTCAAGCGGGCCGGGAATTTATTAAATCAATTAATTACAGCTGTTTtagggattcggca
AAAGGCCCAAAGTGTAGTTTTTgATCCCATGTTACCAGAAAAATTGTCTGGTTAACACT
AACTTACCAATTGTTTGATAAACCTGTCACATATAAATTTATCCAAATCAGTCAGCGAA
AATAGTTATCGATGGTCAAGAGGTTCCGTTTAAAGTTGAAGAAAACCTTATCGAGAAGG
20 GGAATGGTAGTTCAAAAAGACGAGGTGCTTTCATTATTAATTGAAGCAAGTGTTATTGA
TATTTACCATTAGATAGGAGAGTAGTCCATGGTAGGAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 478>:

GNMFI82F gnm_478

25 CCCGTTTCGTTTTTATTTCGATTGCTCATATTAGCAATTTCCGGCTCTTGCCCGCAAGAAGT
TGTCTTCCATTTCCGAAAGCTCTGCTTTAAGATTTTCAATCTCTGTGCTTCAACTTCTA
CTTCAGAAAACGCCAGCAGCATCAACAGCTTCCATTTCTTCTTGTAATTCTTCTTGCTTCT
CTTCTTTTTTACTCACTTCAGCAACTTCCTTTCTCTTATGCATCTACTTCTTATCCTAA
CAAGGTTTGCTTAATTACCTAAAAACGGTAATAGTCACCTAGTTGTGAAGCTAGCTCAT
30 GTCGAAACGTGTCTACCAACCGAATATTTTTGAATACGGCATACTGGTTGGTCCTAGCA
GGGCAATTGTTCTTTGCCATGTCTGATACTTCATACGTAGCAGTGATCATGCTCATAT
CTTCTAAGAGATTGTTGCCAATTTCTGAGCCGATACGAAAAACAATTGGATTTTCTGTTG
TTGCAGAACCATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 479>:

GNMFI83F gnm_479

35 CCTGCCCCATTCGTTTACCGACCCACCGGCAATAATTAAAGCTGTAATCATTTGATACA
AAATCCTTTCTCTAACTAGTCAACCACTAGTTTTATTTCAATTTTGTTTAACTTATATAT
TCATCAACACAGCCAAAACGCAATTCATCTTTTACATTTTCTCATACTATCAGTAAGT
TTCAATAATTTATCGTAGACCTTAATCGAACTGTAATGAGAGTGTAATAATTTTGTGT
40 AAATGAAAAAATCCATACAAAAAGGAAGTCGCTTCTGTAGAATAAAGTTAACGACAACC
AATTCACAGAAAAGAGGACTTCCTATGAATGATTTTACTACAGAAATTGTGCAAACTCT
AGTCACTAAAGGCGATTTAAATGAATTATTCGGTTCGCACTTAGAAAAAGCGATAAACAC
ACTCCTACGGACTGAATTAACGGCTTTTTTAGATTACGAAAAATATGATCGCACTGGTTC
TAATTCAGGTAATTCGAGAAACGGTTCTTACTATCGATCAATCAAAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 480>:

GNMFI87F gnm_480

5 CCGGGAAAAAATTCTATTCTACAAAATAAAAACGTTAGAAAAGCCATTAGTTATGCAAT
AGACAGAAGTAATTATGCTAAAAACATTTTAGATAATGGTTCTATTTCTGCTGTTGGTGT
TGTTGCTAAAGACGTTGCTTTTGATCCTAGTACAAAAAAGATTTTGCTAACAAAATGTT
GGTGCATTTTGATACAGAAAAAGCGCAATCCTATTGGAATAAAGCGAAAAAAGAATTAAA
TATTAAAGAACAAGTAACTTTAAACATTTTAACCAATGAAGAAGAAACAACCAAAAAAGC
10 AGCTGAATACATTCAAGGACAATTAGAAGAAAATCTAAAAGGTTTAAAAATTACGATAAC
ACCAGTTCCTGCAAATGTACAAATAGAGCGAGTTATGAAACATGATTTTACTATTAGTCT
AAGTGGCTGGCAGGCAGATTATCCTGACCCTATGAGTTTTTTAGGTAACCTTGAAAGTTA
CAGTGTGTTGAATTTTGGAGGGTATAGnCATACTAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 481>:

15 **GNMFI88F gnm_481**

CCGGTGAAATTTACCGAAATAAACATATTCTGCTTGATACATGATATTGCCTAATTGAA
AAGCGTCATTTACTTTGTCTTGTGTTGTACATAAGTGTGTATGGAATTGCTGTATTCC
AATAAACTTAGCTAGCCTGTGTTGATCTTGTTCGAATAATTTAGCAAATGGCTAGCAA
TTTCGGTATTAACACAAATAATTTATCTTTATTTAAACGGTCTATCTCTATTTCTAAAA
20 TATATGGATCGTCATTCAATGAGTGCAGCAATTCATAGCCAAGACAACATCTTCTTCAA
ACATAAAAGTAGCACATCTAAGATCGTAGCCTTCCACCCGTAAGTATTTAGAATAGAAT
AGGTTTGCTGATTAAAGAGCGTATGGTCTGTACCTGTCTCTCTTCTTAAAGATCCTTTG
CTTTTTTACTCCTACTAAACCGTGTTTCTAATGCTATTGATATTGGACTTATCTGTTA
AATGAATTAACCTATT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 482>:

GNMFI89F gnm_482

30 CCAGCGCTGCTTCTTCGGGATCAGGCGTCGTTAAACCAAACCTCTAAATGTGCGCCGTTAG
TTCCTAAAAAAGCTTTGTTAAAAACGAAATGTTGTAGCTGTCCATACTAGTGGCACCAA
TGATTGCTTTAGTGAGAGCTTCAAAGTACCACCAAGCATAATAGTGGGAATTTCCATAT
CGCTAAGTTTGCAGCGTGATGCACGGAATTCGTCACTACATGGATTTGTTTCCCAACTA
AAAAAGGGATCATTTCTAACGTGGTTGAACCAGCATCTAAATAGATCATATCGCCATCTT
GTACACAACCTAACGGCTAAAGAAGCAATCTTTGCTTTTCGTGCGTGTTTTGATTGATT
35 TTTCCGTCATGTTTTGTTCAAAGCCTAAATTAAGAATACGCTTAGCGCCGCGTGAATGC
GTTCTAACAAATTGGCGTCTTCTAATTCTTGTAATCGCGGCGGATTGTGGATTCTGAAG
CATTGAACAAGCTAGCAAGTTCTTGCGATTGACGACTGATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 483>:

GNMFI90F gnm_483

40 CCCGCACGTTCTAAAATTTACAGCAATTTCTCATTGGTTAAAAGCGGTGCTTCTTTCAGT
TCGTGCTTATCAATCAGCTGGAAATTTCTCTCCGCACGTGGCCGTAGTTGGGCACGAACT
TTTGAAAACCTTCAACAACGTCGTCTGTAATCGTCCATTCTCCTGTACCTTCCCAAGCCTGC
ACTGCTCGAGGCGCCACGTAATTATCAGCCCAGTATAATAATTCTTCTTTTCAATTTCA

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5 AAGGTCGAAATATTGTCTAAACGAGGTTGAATAATCGTCATTGCGACGGTTTCAAATTG
TAAATAATGTCGTAATATCCACCGCACAAGCGCATATAACATCAGTTGAGGGTTTAA
TACGCATCAACAGGAACACCTTTGCCGTATTTCAAGTCGATAATTTCAATCGTCTTATCT
GATAAGACAACCACGTCCGAAGTTCAAATCCTTCTGGGACCCATTTTGAAAAATCTACT
TTTTGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 484>:

GNMFI91F gnm_484

10 CCCAAAGTGATTTAACGTTTAAATTCAGCGTGGGCGTTTAACTTCGACCAATGGTTATG
CGTTAGGTTTTCAGCAATGATGGACGGTGAGCGCCGTGTAACCTTGTTAAATTTTGCCAAAG
AACAAAAGAAAGATTGGCAGGCTGTCCAGTACAACCTCGAGTATATGTGGAATCATGACG
GCTCAGACAGTGCCCTGTCTGAAACGTATGTCGAAAAGCTCTGATGTGAATCAATTAGCTG
TAGATATTTTGGTACATTGGGAACGTGCAGGCCTAAAAATGATCCCAACGAACAAATCA
AACGAAAAACAAGTGCGAATAATTGGTATAAGAGACTGTCTACAGGTTCTATGGGGGCGAG
15 GTTCAGCCAATATTGGTGGTGGCAAAATTGATGTGTTAGAACAAATGTTAGGGCAAACAG
TCAATGGAGGTGAGTGTATGGGGGACTTCTTATTATGTTGAAAAGATGGGCTTTCAAT
CTTTAATGAATACAGGGCATATGTTTGCCAGTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 485>:

20 **GNMFI92F gnm_485**

CCTGCCCGAGAATGTGGCGGAGGTATTAAATTCGCGCTTAGTTTGTCTAATTCAGCAC
GAAAAAATATCTGATGATGGATAATGCACGTTGTTGAGATAATCGCATTCATGGCATT
ACAATTTTACGGTGCCCAACCGCACAGGACGGTGGGCGAGGGCGATTATTACAAGTACAGAA
CTTGCCCTAGAAACTATTTAAGTGAATGATTTTGGCCGTGAGCTTGTGAAAGCAAAAGA
25 TGTTGAAGGCATCGAATTAATGTATGAAGATGTGCCAGACACATTGAAACAACCTATCCG
AACAGGTTTGTGTTGCCAAAGAAGGGCATCGGTTTCATCGTGTCTGACTTTTCAGCCATTGA
GGCCCCGAGTGATTGCTTGGTATGCCAAACAAGATTGGGTATTAGAAGTATTCGGCACACA
CGGCAAAATTTACGAAGCAACAGCGGCGCAGATGTTCCATTTAGGCGAAGTGACGGACTA
CGACTGGAAGGCCACGAAGGTAAAT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 486>:

GNMFI94F gnm_486

35 AAGAAAATTTATTTATCGCTAGTACGATCAAAGAACGGGATCGAAAAGTAGTTCTAGCCG
AAGCTTTCCAGGTGTTCCAATTAGAACCTGCCTTACTTGGTCGTTCTTTACTTCTTTTA
CGACTTTTGAAAAAATTACAATGCGCCTAATACAACCTTTGCTTTCAAAAACAAGTACGC
TCGTGATGTAGACATCTTTTCTTCAATTAACGATTGGACAACGTCAAGAAATTTTACCTC
AATTACCCTAGCAGTTCAACCAAGAAACAAGCGCTTGCTATTTCTGACAAAAGATCCAC
AAATTCCTTGATAGTCCCTATGTGCACCCCCCTGTCTCTACATGCGTTATTAACTCAAGAA
AACGTCTGGCACTGATTGCTACCAGACGTTTCTTTACGTTCTCAGTAATTTCAACATCA
40 GGAAGTGAATAATAAACGTGGCGACTTTACCAAGTTCACTCTCAACATTAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 487>:

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GNMFI96F gnm_487

CCGCTCATTAAATAAGAACAGGTTTCGGGTAGTAGTATAGAAGATGCTCCAATGTTTCGCTTG
AAATTCCTGGTAAGATATCTGCCAGTGAATAGGATAAAGTATCTTTTGTGTCGGTGAATAC
CTTATTTTCGCTATCTAAATGATACATGGCGTGAATAAGTTCATGAGATATCGTGAAATT
5 TTTTCTTTTTCGCCCATGTTAGAATTATAAGCTAGCGTAGTCTCGTAATCATCTTTAAT
AATCATACCTGATATAGATCTACGTGCTGTTTTTCAAATGGAAAGGCGCTTATTTTAAT
TGATTTAGATGTTAATATTTTCATCCCAAATATATCTATGCTCATAATTATTAACACTCAT
TCCCAAACATAACATGTGTGCTGAAATAAATTCGTTAATGGTACCGCAAAAGTTAAGGTA
CTCGTCTACTTCTACTGTCTATCCTGAAAACACCTTGTAATTATTCACTTAAATTTTCT
10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 488>:

GNMFJ77F gnm_488

CCGGCTTCTTCAGGCCAAATCAGCCTTCTGCGCGAGGGGAAGACGTTTGGAGTTGGTTTC
CAGCTGCGGAGACCACCAGCCAAGCAGCAGTGCCTTTCGCGGTTATGAACAACCGGAA
15 ATGGTCAAGAAACGGCCTGTCGTCGTCATAGCGGAAACAGGCACAACGGCAAACCTGGTA
ACGGTCGTACCTTAAGCAGCACAGAACCTGTCCCTTTGGCGGACTACCACCACAAAATG
AGTGGAAACCCCTTACCGGACAAGCCGCACATCCAATGTTGGGCAAAATGCGACATGACG
GCAACAGTCGGATTGGCACGATTAGACCGATACAAACCCAAAGGCTGCGACCGCTGCATT
CCAATAATCAGTGAAGAGGATTTTCAGGCGATTAAAACAGCCGTTGCCAAGGCATTCAA
20 CTGTACTAGAATAAAACCGTTCCCTTAAAGGGGCTTGCAAGACTATTCTGAAATATGGGC
AGCCGCGCACGGGCGACAGGCGATGACAAGCCGTCCGTGCGTTTTATGGGGCGCGGAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 489>:

GNMFJ87R gnm_489

TATTGGCTTCATTTAATGCTCCTGAAATCCAAGCGCGTGCTGCTCAAATTGAAGATTGA
CCAATAAATTCCAAATCAGCAGCACACCGACTGTGATTGTGCGGCGCAAATACCAAGTTG
AATTTAAAGACTGGCAGTCCGGTATGACCACGATTGACCAGTTGGTGGATAAAGTACGCG
AAGAGCAGAAAAAGCCGCAATAAGTTGAGGATTGAATGAGTAAAGGCCATCTGAAAATAG
GATTTACAGACGGCCTTTGTATTAGGCTTATAGAAGAGATGATTGCTTAAAGCCTTAT
30 GGTTTTAAATCAGAATATATAGCGGATTAACAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 490>:

GNMFK22R gnm_490

CCGAAGATGATGCTGGCTTTGCTTCTTCTATGGCCCGGTGGTGTTTTACAGGAGGACGG
35 CTTTGGGTAATTCGCTTGTACGAGCAAGAGCGGCAGGTAGTCTCCGGGCAGGCGCAGGG
CGACATCCTGCATTTATTTGCGCGAGGAAAACAAGACGAGCGTGCCGATGGCTTCGGTGG
GCGAAATAAGCTTGGGCAGCCATTTCATGACGGCGGCGGTGTTGGGCTTCGGGTCTTTAG
GGCTGGCGTATATAGGGGGGATGTAGAGTTCGCCCTGTTTTTCAAAGTCAAAGGGGCTTT
TAAAGCGGAAGGTAGTGGTTTCAGGCGCCATTACAACCGGTTTAGCGCACATACAAGT
40 TGAAGTTACCCAAAGATTACAGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 491>:

-774-

GNMFL05TR gnm_491

5 TACTAACTCTGCTGTCGTTCTTSCAGTTACACCTGCGACAAACAGTTCAATGAGTTTATT
TGTTTATACCGGCTTAGACGACTTTTCTCATAAGGGCAACTCTAACTAATTTGGATTT
CCCTACTTATCTATGAGAGCCCTTGTTTTAAATTGACTATAATCCGCTATATTGTGAGA
AGCTGGATGAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 492>:

GNMFL42TR gnm_492

10 CAGCTCGGTAATAATTACGAATTCGAGCTCGGTACCAGATTCCCTGTCGGAGATGGAGGA
GTTTGACCGCCTGATTCTGCTGATACGCAAACGTATCAAATATTGGACGGGCAACATAT
CCTCTCCAGAGTAACGGTTTGCCTTCACCACAAAACCGGCGCGACCTGATTGCCTTGGA
TAAAGCGGCTGCCGTTGCGATTCCGCAATGTTGCGCGCCCAACGTTGGCTCATCTACAC
GCAAATTGCGGAACGCCCTTGCCGGTCCGGCGGCGGTTTACGGTTACGGTAGAAAGCGT
15 GTCCGCCGCTGTCCGGAGCTTGAAGGACGTATCTCGAGCTTGTCCGCCGCGCCGCGT
CTCTTTCGGTTTACGCAnAGATGGGAAAATCCGGCAAGCGGGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 493>:

gnm_493

20 CCTTTCATTCGCTGCTGGCGGTTTCTATGGGTTCCGGTATTCATGGGCGCACTGACCTACA
TCGGCAACGCACCGAACTTCATGGTCAAGGCCATTGCCGAACAGCGCGCGTACCGATGC
CGACTTCTTCGGCTATATGATGTGGTCCGCTTCCTGACACCCGTCTTCATCGTAC
ATACCCCTATCTTTTTCGTTTTCAAACGTGTAAACGCTATGCCGTCTGAACATTCAGA
CGGCATTTTAAATTCGGCATAATCAAATCAATATCCCCCTTCCGACAATTTATAGTGG
25 ATTAACAAAAATCAGGACAAGGCGACCAAGCCGACAGTACAAATAGTACGGAACCGA
TTCACTTGGTGCTTCAGCACCTTAGAGAAATCGTTCTCTTTGAGCTAAGGCGAGGCAACGC
CGTACTGGTTTTTTGTTAATCCACTATAAAATCTAAAGAAACCTTTTTTCCGATAAGTTT
CCGTGCCGACAGGTCTAGATTCCCGCTGCGCGGGAATGACGAAATTTCAAAGTTATGGC
GTTATCGGAAAAACAAAAATCAAAGCCGGAAGAATTTATCCCAAACAACCGGATTTCAA
30 AAACCAGATGCCCGGCGGGAATGACGGATCTTAGGCTTCTGTTTTGTTTCTATAGTGGA
TTAACAAAAATCAGGACAAGGCGACGAAGCCGACAGTACAAATAGTACGGAACCGAT
TCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAATGCGAGGCAACGCC
GTACTGGTTTTTTGTTAATCCACTATATTTTTTCAGGAATGACGGTTTGAAATTGCCCGA
AACCCTAAAAACAGAAACCAGACAAACAGGTTTTCCGCCAAAGCCGGCATTTCGCACTT
35 TGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 494>:

GNMFP26TF gnm_494

40 CCGGGTGGATGGTATGCGCACGGATGTTTCTGAAATAATCGCTTACCGTGCTTGTGTTGT
TTGCACCGGTTGCTTGCGGATAATCGTGGGTAATGCGTTCGGCGGCATAAGCTAAATCCG
CCTGCACATAATACGGGCTGCGGCTGCCGTCTTCACTTGCCGCTGCGCTGCGGAAGATA
AGACAACAGACGAGAATAGAAGAGAAGAGAAGAGAAGACAAGAGAAGAGAACAGA
ACAGAATAGAACAGAAGGTTTTTTGGGGGCTGGATTCAATTTTCGACTCCGTATTCGGTTT
TAACTGATTAATAAGAACTTTTCAATGATCTTGACGAGGCGGACTATACAGGTTTGT
GGCGATGTTTCAACACAATATA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 495>:

gnm_495

```
5  CAGGAAGGACGCGGCATCGGGCT3ATTAACAAAATCCGCGCGTATCATCTGCAAGACCAA
   GGTATGGATACGGTTGAAGCCAATTTGGCACTCGGGCTGCCCCTCGATGCCCAGGATTTT
   CGTTTGGCGGGGTTGGTGAATCTGATTGCGTGCGGAAGCACCCGTTCCGATTCGGTGCG
   GAGCAAATGGCGGCACTTTATGTACCGTTCTGCGTGTTGAAACATATAGGCAGATAAAAA
   AGCCGCCCGTTGAAAAGCAGACGACTTATGTTTTGTGGCACTAATTTGTCCCGATAAGCA
   TTAACATATAATTTATTTATCATTATTGGTGCGGACGGAGAGACTCGAACTCTCACACC
10  TCTCGGCGCCAGAACCTAAATCTGGTGCGTCTACCAATTTGCCACGTCGCGATGGGAAT
   TGGACGATTATACAGATTTTGTTTTTTTGTGCAAGGTTTTCGGCGGGGCTGTTGATGGCT
   TGGGGTTTGGGGCGGTAAAATCTGTTTTTCGTCCGCTGACATCGGAATCGGGCGGTTTTT
   TTGTTTTTATTGACGGAATTTGGGTATGCCTGCTGCTTTGATTAAGGATTTTCTGCTGAC
   TCAGGGTTTGAAGCTGCCGCTTGACGAGGTTGCGGCGGCGTATCTGACGGCGCAGACGGT
15  AATGGATATGGGGACGGCTTCGATAGACCGTTTCGGTTTTGTGGCGCAGTGATGAGGGTTG
   GAAACTTGCCGATTACCTGTCGTGCCACAATGTCCGCGAAGATGCACTGAAACGGCTTTT
   CATGGCTTTGGATTCCGTGTTTTCGCGCTCGACAGGCGTGCGGAGTGCGGCGGTCTATGC
   CTTGATGCCATCTGAAAACAGGCTTTCCAACTGATATGCCTGTCCCGACAGGGCGAGGT
   TTTGGAAAACCTGTGGGATTGGGATGAAGCGGCAGGCAAGGTTTCGCTGGCTTGCCGTTT
20  GCGCGAAAGCGGTTGGATGAATGTTGCCTCGGATGTACGCCGTTGGCTGGATTGGGGGA
   GCTTTCGGGAGAAC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 496>:

GNMFP92TR gnm_496

```
25  ATCAACAGCGCGCCGTATTTTCGGTCAATCCGCGCAAGGCTTTGACAAAGGCTTCGGTC
   GGGCGGACGAGGTTTCATATTGCCGACGAAGGGTTTCGACAATCACGCAAGGCGATTTTCATTG
   CCGTTTTGAGCAAAGGCTTCTTCGAGTTGGGCGATATTGTTGTACTCGATTACCAAAGTG
   TGTGTTGGTAAAGTCGGCAGGCACACCGGTGGAAGACGGTTGCCAAACGTCAGCAGACCG
   CTTGCCGGCTTTCACCAATATGCTGTCGGAAT
```

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 497>:

gnm_497

```
35  CCAACATACAGGCCGCTGTAGAAACATGGCGGCAAATCGGATATTTAGTCTCCACTATA
   AAGAAGCAGGGGGCGGACTGTCAATACTCAACGCCTGAAAACAACCGTAAAACAGCCTGT
   TTCTTGATAGTCTATCATGCCGAAAAATCAATTCCGTGTCATTACTTTAGGGGGATTTTT
   TCCATATCGCACGATTGCCGTTGCACAAAAACAACAACACAACGGCAAAGCCCCATACC
   GTACCGGCAAGAAAATATGATAAATTATAAACAATGTTACGCCACCCGACACAGACCCAC
   ACCGACCCGCCATGAAATTACAACAATTGAAATACGCCTTAGAAGTTTACCAGCACAAAC
   TGAACGTTTCCGAAGCGGCCGAAGCCTTGTTTACTTCGCAACCCGGCATCTCCAAACAAA
40  TCAAATTGCTGGAAGAAGAAATCGGCATTAGATTTTTATCCGCAGCGGCAAGCGCGTGG
   TTTCGGTCTCGCAGCCGGGCAAGGTGGTTTTGGATATTGCGGGACGTATTTTGCAGCATG
   TTCAAAACAT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 498>:

-776-

gnm_498

CTTGCCGATTAAGTGGGTATAACGTTTCGTGTTTCAGGATTGACGGCAACGGCAACGTCGCC
CAGCAGCGTTTCAGGACGGGTGGTCGCCACGATAACGGCTTCGGCGGGATTGTCCGCCAG
CGGATAGCGGATGTGCCACATAGAGCTGTGTCTCCCAcgtcwgACGACCTTTTCCGTT
5 TCAACCAATCCCTGCGCTTGATTATTGGTAATAATTCCCTATTTAATTCATTTGTTAGACA
ACTCGTTCTATCCAATCATGAACACCGCCGCCATCTACCGCCAGTACCAAACCTATGTC
CGCTCCGATAAATCCGGCTGGGCGTTGGACGGCTGTTCCGACAGCGCCTCATTGCGCAG
GCAAAACAGCCCGGTTTGTCATCTGGAATGTGCATCAACCGCTTCGATTTCGGGCATCACC
TTGTCGCGGATGCGCGCGCGGGAACGGGCGGTTTCCACCGAAATCCACAATTTTCAGC
10 CACAATGCGCCTTGTTTCGTATGGTGTTCGGGGCAGAACCGGTTACAAATGGGCGGCAGG
GAATACCGCCCATCTGCCGGCGAAATCTGACTGGTACGCGCGGATTGGCGGACGTATCC
GAAACCCTGCTGCCCGACAACAGCGGCATGTGCGCGCTGCATTTGGATTTTGTCTGCTGGA
AA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 499>:

GNMFU01F gnm_499

CCGCCATTAACACTGGGTAAGTTAACAACACAGTTGGGATAGCAATGGTGTATTACTAT
TTCTTTTTTTCGCTAATTTCTTTGTTTTAAATTGGGTCACTTTTGTAAATCACCTAGAT
TACTTTGTGTCAGCATTAGATAACCTAACATGGTATGTTCCATCAGATCACTTTGTAAAA
20 ATAAGTTCACTTTTCCATAATCAAGTCTAGTGCTAATAAAGTTTTAACAGTTGCAAGT
TGTTATCTTTGAGCATTGTTGGTTCAAAATCAACAGTAATAGCATGAAGATCAGCAACAA
ATAAAAACAGTTGTTATTGACTTTGGAGTTGTTTTAAACCTTGCATTACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 500>:

GNMFU02F gnm_500

CCCGCGTTAAACTTCCTTTAAAGTTTCAATTTGTTGTGAACCCCCCTTAAGCTTAAATT
CACTTGCAAGGTTAACCTTTTTAAGATCAACTAAATTAATTTGGTTTAAATTCAGTTTT
TATTAGAACTTTAAAGTTTTCTTTATGAGTTACTACTATTTGTTTATCTTTGGTTAATT
GAATATCAATTCAAATACCATCAAAATCAAAAACCTGGGCTGCTTGAAATGCTAATTTGG
30 TGTTTTCTGGTGCAATAGAACTATAACCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 501>:

GNMFU04F gnm_501

CAGTGAGTTTTTTTGACAAGAACTCATGGGCTTTTTGTGGATCAGAGCCAATCTGAACA
35 AGCTGCTATTAGCTTTTGAAATTTATATCAGGATTTAATTATTAACAACTTTGTATCCC
TGCTTTTTGTGGTTTGAAAAGTGAAAGTGAAAAATTTGCAGGTGCTAAAAACACATGGAC
AATAGAAGCAATTATGCCTGATGGACAAAGTTTACAATGTGCCGGGTACCGAGCTCGAAT
TCGTAATCATGGTCATAGCTGTTTCCTGTGTGAAATGTTATCCGCTCACAATCCACAC
AACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTC
40 ACATTAATTGCGTTGCGCTCACTGCCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTG
CATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCATTTGGGCGCTCTTCCGCT
TCCTCGCTCACTGACTCGCTGCGCTCGGTCGTTCCGCTGCGGCGAGCGGTATCAGCTCAC
TCAAAGGCGGTAAAACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGA
GCAAAAGGCCAGCGAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCAT
45 AGGCTCCGCCCCCTGACGAGCATCACAAAAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 502>:

GNMFU07F gnm_502

5 GGTATTTGGTCCATTAAGGTGAGAAGTTATTACGTATTATTAACAAAAAGGGTGATGTTT
AAATCAAATTCATCTTTTGTGTTGATCTTGGAATTATTTTTTCAATATAACCATCA
CCATTAATAATTGTTTGACAGATTTTATTAATGGTTTTTCACTCCACACTCCGTTAATG
TTAATGTAAGTGCAGAACTTACGTGGTTTTAGTTTTAACTGCTGGATATTTCAATATAAC
GGGATAATTTTTAACTGCTTTTTATTTGTAAATTCCTACAA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 503>:

GNMFU08F gnm_503

CCAGAACTTAGTTTTTGAACAGATCATATAACGATGGTCATTAGGTGGTTGTTATTG
CAACCGAAACAGATAGTTCCTAAATTAATTTTCTAAACGGTTCTACTAATCAAGGTACAA
GTTCTCTTAGTTGAGGAGGTACCTTGGGTACCACCATCAGACAGGTGCAAAACCGTTATT
15 CTACTTATCCAAACGGAGTTAAATTTTTAATTTGGAATGATATTGCTCCTGGTTCAGTAA
AGTGAAACCCATATGCACGTTTTCTGTTGTGGATAGAAAAACGAAGTTCAGTCAAGTCAGG
GTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGCGTGAAATGTTATCCG
CTCACAATTCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAA
TGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCTTTCAGTCGGGAAAC
20 CTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAAGCGGTTTGCGTATT
GGGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTGCGCTCGTTCGTTGCGCTGCGGCGA
GCGGTATCAGCTCACTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 504>:

GNMFU09F gnm_504

TTAAATCGGAAATCATCTAAAGTATAGACAAAAAGCGATAGTCATCAAAGTTATTAAGT
GCTAAATTAAGTAAATCAGTTAGTGAATTTTTAGTTTTTCTAAAGCTTGATTTGTTTGA
CTCATCAAGTAAACAGTTTTTCATAATTGATTGATTCTGAGCTAAAGTTGATGGTTT
AAGTTATTAATATTTTTAGTAATTAGATCGCAGTTCTCATTAAGCTCAATAATTAATCA
30 TGCACATCTGTTTCATTTTGAACACTAATTCATGGCTTTAATTGTTGTTTTTAAAGC
TCATTTTTCTTTTCATATTGTTGAATTTGATTACGAAATCATCAATATTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 505>:

GNMFU11F gnm_505

35 CCAAATTTAATGTACTAATTCTGTTAGATAGATAAGAATTGGCTACTAACTCCACCTCCT
ACTAACAACATTTTAGGGGCAAATTTTTTAATTGCATTTTAAACATGATCAATGTAATGA
TCAATAATAGTAGCTTGAAAAATTGGATGCTAATTCACCTCCAATCAATTCGGGTTTTATTA
GCACTTATTTGTTTAATCTTGTTTAAACACTGAGATTTTAAACCAGAATAGGAAAACTTA
GTTCACTTAGTAGAAGGTTTTAAAGAAATAGTGAGGTTTAACTAATTCTTTATTAAGAA
40 CTATCAATTTTACTACCAGCAGGATAATCAAAGCCCATTGCTCTGCCTATCTTGTCATAA
ACTTCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 506>:

GNMFU12F gnm_506

5 AGATAAGAAATACAAAATTCTCATTGAACAAGAGTTAAGTAATCCCATTTCCTTAGTTA
TGAAAATGACGAATTAAGCACAATGTCAAACCAAGAATTAAGTGAATGATTAGTTCA
AAAAAGTAAATCTTCATTTTGGATGAATAATGCTGGTTTAAAACTTTAACTTCAT
TGCACCTTATCCTATTGATAAAAATGAATCTAAATTAAGTAAAGCTGTAAGTGTTC
TCAATATGATAAGCAGTTTGAACAAAGGTATTTGCAACAGAATTTATCCCTATCCACAA
10 GATTAACCAACAGATCGATGATGTCAAGATTATTGGGCAAATCTTTGAATTAACCA
TGAAAGTTTAACTGGTAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 507>:

GNMFU14F gnm_507

15 CCCAGGATTGGCAATTTTATGCCTGGTTGCATCTTACTTTCTCGGGTTCTTTTAGAAG
TTATATCCCACTCCTAGTTTAAGAAATACTGTTGGTAATCACAACAGTTATGTTAATAA
TACTGTCCCTAAAAACAATTTTATGAAAAGTTTATGATCTAACTTTGCTTTAAATTT
CACTAATCAGAAAACCAAGAGTTTGGTACTGGTTGGTTAATTGACTGAAAAGGAGATGA
AACTAAAGATCTTAATACATTAAGTATGGGTACCGAGCTCGAATTCGTAATCATGGTCAT
20 AGCTGTTTCTCGCTGAAATTGTTATCCGCTCACAATTCACACAACATACGAGCCGGAA
GCATAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGC
GCTCACTGCCCCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCC
AACGCGCGGGGAGAGCGGTTTGCCTATTGGGCGCTCTCCGCTTCTCGCTCACTGACT
CGCTGCGCTCGGTCGTTCGGCTGCGGCGAACGGTATCAGCTCACTCAAAGGCGGTAATAC
GTTTATCCACAGAATCAGGGGATAACGCAGGAAA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 508>:

GNMFU15F gnm_508

30 ATCCTTATAGCTATTTTCGACGAGATCCAGCTATCACGGTCCACTAATTGGAATTTACCC
CTAATCACAAGTCATCCGCTATCGTTCAACGAGAGTCGGTTCGGTCCTCCAGTTAATGT
TACTCAACCTTCAACCTGCTCATGACTAGCTCAACCCGTTTCGGTCTATGATAACAAAC
AAACGCTCTCTTAAACTCGCTTTTCGTACAGCTCCCATCTCCTGGTTAACTAACGCTT
GCTATCATAACTCGCCGGCTCATACTTCAAAACGACGCCATCACACATTAATGTGCTCT
GACACGTTGTAGGCATATGGTTTCAGAATCTATTTC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 509>:

GNMFU16F gnm_509

40 CCGTGAGTTGTTACGTTGTTTTAAAGTGATTCATTAGCTTTACTGAAAGCAGTTTGCT
CAAGGTTTAACTGGTGTGTTACGTTCCAGTTCTAGCTGAGCTTGACTGTGTCTTGCT
TTTGGTTTTGCAGCGCTTGAACCTGTTATCAAGTTCTAGTTTGACCTGATTATTTTTT
CAGCTAAGTTGTCAAGTTCACGTTGCTTAGCTTCAATTTGTCTAAATCTTGGTCCTTT
GGAGTTCAAAACCTGATAGTCTTTTGTAGATCACTAAAGCAATCTTTAGTTCTGTTT
CCTTTTGGGTTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 510>:

GNMFU19F gnm_510

5 TTTGCAAAACAACCTGAATCAACAACCTGATAGCTACAGCTTTGACAGTGATTTACCTCAA
CCAACCCTTGACCAACCTTCTTTAGATGATCATGTTGAGTACAACTTTGATCACCATGAA
GAGCTCAAACAGTTGCTGAAGAACAAAATAATTATCAAGTTGGATTTGATCAAGTTCAA
GCTAATCTTGATAATAATGAGGAAATACAACCAACTGCTGAAAAAAAGTAACACTGAT
TTTGAAAGTAAACAAG

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 511>:

GNMFU23F gnm_511

15 CCTGACAAACTAAATCAAAGTGAAAGATATTTTCGCTTAGCTTCAGGGCAAATTTTTTA
AAAGTTAATTTTGATAAATGTGTTTTGCAAGTACAAAAACACATCATAATCTTGCTTTA
GTTACAAAAAAATTTTCGAATTATTTCGTTGAAGATGAAAGATAAATTTAGTTTTCAAAA
AACTATGATTTCAACTTAGTTAGTGATGGGCTTTATGAAATTTGAAATAATGCTGGTTT
TTTTAAACCTAAAGATAAAAACAATTCTTTTACAGCAATTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 512>:

GNMFU25F gnm_512

20 CAGGGTGGTTTTCTTTTACCAGTGAGACGGGCAACAGCTGATTGCCCTTCACCGCCTG
GCCCTGAGAGAGTTGCAGCAAGCGGTCCACGCTGGTTTGCCCCAGCAGGCGAAAATCCTG
TTTGATGGTGGTTAACGGCGGGATATAACATGAGCTGTCTTCGGTATCGTCGTATCCAC
TACCGAGATATCCGCACCAACGCGCACCCGGACTCGGTAATGGCGC

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 513>:

GNMFU27F gnm_513

30 ACCTGTTTCAAGTGAAAGTTGGTAGTTGTGTTCAACTGAACTAATTGCATTTCTTCTAAC
CTGAGCATCAACTTGTCTTTTCTTTGGCGGGTTTTGGCTTGCTCACGGTTTTGTTCAAA
GGTGAGAGTAACAGAAGGTAATCCCCATTAAACCAATCAGGACTTGTCAATGTTGTCAAG
TTCACTAGCAGTTTTATCATTAGTGTTTTAGTAATGTTTACAGAAGAAAAGCCCTGAAT
GAATAAACTGTTAGCATAACTTTTTCAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 514>:

GNMFU30F gnm_514

35 CCAGCCACTAGGTAAGTTAACCAATAGTGGTACATACTGGGCACGGGGCAAACATCGTGT
TAGGATCAAATAGTTCACTTACTGGTAAGGTGAATAACCTATTAAAGTCAATCTGGTTAC
CAGGTTTAAAGCTAATTTTTCAGTATCACTATCACTAGTTGCTCCCTGGCCATTGATAA
GGTTAAACAAGGGGAGTAGATACTACGCCAGTTAGTTTACCATCCATCTTGGTAAATGTAC
TATCACCTATCCCTATTTCACTCTTATTGTTTTGTTTACTATCAAAGAACTTTTAAAGGG
40 GTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCCTGTGTGAAATTGTTATCCG

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CTCACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAA
 TGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCCTTTCCAGTCGGGAAAC
 CTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATT
 5 GGGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTCGCTCGGTCGTTCGGCTGCGGCGA
 GCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCA
 GGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTG
 C

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 515>:

10 **GNMFU31F gnm_515**

CCGATCTGAAGGCTTGGGGATTTTGTAGTGGAGTTGAAAACATGCGAGACACTTAGAGT
 TGAGGATGGCTAACTCAACCCCTTACAGTATCTTTGATTATTTTAAGGGGGATTGGTTAC
 TGGTTATTGATGAATCACACCAAACCTTACCGCAACTTAATGGGATGTATAACACTGATC
 TTTCAAGAAAGCAAAGCTTAATTGATTATGGTTTTTCGACTCCCATCTGCACTTGATAACA
 15 GACCGCTCTCATTTGCTGAATTACAACAAAAAATGCAAAAAGTTATTTATGTTTCAGCAA
 CTCCAAGAGATAAAGAGATTAGTTTAAGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 516>:

GNMFU33F gnm_516

20 GCGAAGATGATCTTAAGGGCTTAGATTCCAATCAAACCTCAAGCAGGAAATGTTCCAGAAG
 TTGAGACCGTTTTTGTTTACGAAGATGATCTTAAAGGCTTAGATTCTATTATTAAAGACG
 ACCAACACATGATGAAATTGCTAAACATGTTGAACATTTAAGTCAAGATTATTCTAAAG
 AGATAAAAGATAGTGCTAAAGCAGATTTATCTAATTTCTGATGATATTGATTCAGTTT
 GAAAAGAATTGCGTTCTTTTACTGATGAGACACAAAAA
 25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 517>:

GNMFU37F gnm_517

GACTCTAGAGGATCCCCGTTATTAGTCACTATCCCCCTATGAAAAGACTATTTGGAGGTT
 AAAATTCTAAGTACCATGGAGTTGAAAACCCCTAACTTTAAGCTAATTGATGAAAAGATT
 30 GCTGAATTTAATAAGAGTAATGAAAACCTGATTGTAAACTACTTCAAAAAGAAAAGGAA
 TTTGCCACAAACCAAGTTACTGTTTCAGTTTGATACTCAGTCAAAAAAGTCAGAAGAAGTG
 AAAAAACCTAGTAAAAAATACTGAAAAGTTATCACTGGGTACCGAGCTCGAATTCGTAA
 TCATGGTCATAGCTGTTTCCTGTGTGAAATTGTTATCCGCTCACAATCCACACAACATA
 CGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTA
 35 ATTGCGTTGCGCTCACTGCCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAA
 TGAATCGGCCAACGCGCGGGGAGAGGCGGTTTTCGTATTGGGCGCTCTTCCGCTTCCTCG
 CTCCTGACTCGCTGCGCTCGGTCGTTTCGGCTGCGGCGAACGGTATCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 518>:

40 **GNMFU39F gnm_518**

AAGTTTATTTCTTTTCTTTTGCCTCTATTATATTTCTGTGAATGATGTGGTTTTATTTT
 GTTATTGGAAATAATAACGTTATTCATTTTTTTCAAATTTTATTCAATTCACCTTTTATT
 AATTAATATTTTCATTTTTGATTAAGTATTAATTTCTGGGTATCAAGGGTTATGATATT

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TATTTCTATTTTTTTATTTCTTTAATATCTATTATTTATTATAAGAACTAAAATGTCTA
TAATTTTGTTTCATAAAAAGCTTATAATTAAGCATAAATGCTTAATTATAGTAATAATTAA
TACTCTCTAAAATAGATACTATTATATATAACAG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 519>:

GNMFU40F gnm_519

CCTGCAACTAATTTAATTGCTTGGAGACTGAATGCAATCCAAAGTGGCAATATTAAACCT
TCAACTACTTTTAAAGTTGGAATTTGTTAATTTTAAACACCAACAGAAGTTTGTTATTAAT
10 TGGTTTAAAAATGAAAGTGAATCACTGCGTGATTTCCAATCACAGTTTGAGAGAATCAAT
AAGTTAGTGGAAGGGAGTTTGTTAAGTAACAATGTTAAGTTTAGCACAAATAGAAAGTT
GGTTTTTTATCGCTCCAGCACTGCTTTTAGCAGTATTGAGTGGTTATCTCGCTGAACGCG
TTGGGATCATTAAATATTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 520>:

- 15 **GNMFU43F gnm_520**

TTTACTGTGGTTTGGATTAACTTATCCTCATTGAATTTCACTGGTAGTGCTGCAGTTCTG
TGATCCTGTCAAACGATGGCATTATAAACAGGCAAACCATTTTCTTTATTTTCATAAACT
ATTGTTTCTCTTTGATTGGTAATACCAACTGCAATCACTTCATGAGATTTGATTTGTGCT
TTATTTTATGCACTTTGCATGGTAGCTAGTTGGGCTGATCAAATTTCTAGTGGATCTTGT
20 TCAACTCAACCACTATTAGGAAAAAAGTGTTAAATTCGTTTTGTGCTATTGCTATTTGG
TTAAGATTGTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 521>:

GNMFU45R gnm_521

25 GTTGATGGCGAGATAACGTTTGTGCTAATCTGGACACGTAAAATCTAAAGAACCGTTTTC
GAGGGCGATGTAGCGGTGTGCGGCGCAACCAAAATATTGCCGGGGTGCAATATCCGCGTG
GAAAAAGCCGTCGCGGAAGACTTGCCTGAAGAAGATTTCCACGCCGTAATCGGCGAGTTT
GTGCAAATCGATGCCGTCTGCTTTGAGTTTGGCGATGTCGGAAACCGGCGTGCCGTCCAT
CCATTCGATGGTCAGCACGTCGCTGGTGCAGTAGTCGTAACACCTTCGGCACAATCAG
30 CATATCGCTGTTTTGGAATTGCCTCCGAGCTGGCTTGGCATTGCCGGCTCGCGCATCAA
GTCCAACCTCGTCGTGCAGATTTGTGCGAACTCCGCAACCACTTCGCGCGGCTTCAGACG
CTTGCCGTCGGCAAACAGACGCTCGACCCAGCCTGCACCAAGCGCATCAGCGACAAATC
CTGTTGATCACGGGCAAAAGGTTGGGGCGCAAACTTTAACC

- 35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 522>:

GNMFU45F gnm_522

TAGAGGATCCCCTGATCCACTGTTAATTGATCAAATGCATTTAAGCCAATAAGCTAAGGG
GCAATAACTTTTATTAACGTTATCAACGGCTTCGTTAACGCCTTTACCAAAATAATTTTTT
GGATCATTATCACGTAATTCAATTGCTTCTTCTCACCTGTAGAAGCACCTGATGGAACC
40 ATCGCTTACCTACATGACCAGATGCCAATTTAAACAACAAGCTACTGTTGGAACACCC
CGAGAATCAAAAACCTTGATAAGCAAAAATATCGGTTATTTTTGAATTGATGTTTAGATT
GAACTTCCCGGTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGCGTGAA
ATTGTTATCCGCTCACAATCCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCT

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GGGGTGCCTAATGAGTGAGCTA~~ACT~~CACATTAATTGCGTTGCGCTCACTGCCCGCTTTC
 AGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAAGCG
 GTTTGCGTATTGGGCGCTCTCC~~3~~CTTCCTCGCTCACTGACTCGCTGCGCTCGGTCTGTC
 5 GGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAG
 GGGATAACGCAGGAAAGAACATGTGAGCAAAAAGGCAGCAAAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 523>:

gnm_523

CCCCGTTAAAAGCCTTTGATTATTC~~CAA~~AGCCTTTTGAATAAGGCGTGGCTTCACGTAAAT
 10 TAGGTCAAAATTTTACGGTTAATTTAAGCGTCATTA~~AA~~AGAAATTTTGTCTTTGTAAAA
 ATTTAAATCCACAAGCAATTGTTGAAATAGGTGTTGGTAAAGGAGCGTTAACAAATTATT
 TGTTAA~~AA~~CTCAA~~AA~~TACCTTACAAGGGGATAGAAATTGATAAACGCTTAATTGAATATC
 TTCTAGTTGAAAAGATATTA~~ACT~~GAAGACCACTAGTTAAAGGCGATATTCTCAA~~AA~~AGG
 ACTTTAATAGTTTTTTTGA~~AA~~ATTTAAGTCCATTGGGTACCGAGCTCGAATTCGTAATCA
 15 TGGTCATAGCTGTTTCTGCGTGAAATTGTTATCCGCTCACAATTCACACAACATACGA
 GCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATT
 GCGTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGA
 ATCGGCCAACGCGCGGGGAGAAGCGGTTTGCGTATTGGGCGCTCTTCCGCTTCCTCGCTC
 ACTGACTCGCTGCGCTCGGTCTGCTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCG
 20 GTAATACGGTTATCCACAGAATCAGGGGATAACGCAAGAAAGAACATGTGAGCAAAAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 524>:

GNMFU50F gnm_524

TGGCTTTTGCAATGCAAAACATCCAAAACCACACATAACCCTTTGTTAACCAATCAATAGT
 25 ATCAGATAAAAATCCAAAAATAAACC~~CC~~AAATAGGACCAAGATCCATCCGAACAATGC
 AAAGGGAATCCTTAGAAA~~ACT~~TAATGCTTAATACATTAGTAACACTAATTGAAAAGATAGA
 AAAGATAAAGGTTAGTGCTAATAAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 525>:

GNMFU51F gnm_525

CTAGAGGAGTCCCAAGTTTGAATCGTCATTTAACAAGAAATGA~~ACT~~TGAGAAAGCTTAA
 TAAATTCGCTCTTTGATTAAACAAAAATAAGCTCAA~~AA~~AGAGATTTTACTGATTTTGA
 AGGGAGTCAA~~AA~~ACTAAATGCAATTGCTTATTTGAAGAGGAATATTCTCAACATGAAAT
 ATTAAGAGTGATCCGCTTTGGTGATTATAGTGTGAGTTGTGTGGTGGCACTCATGTAGC
 35 TAACACTGCTTCAATTGAAGATTGTTTTATTACTGATTTCTATTCTTTAGGAGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 526>:

GNMFU53F gnm_526

GGAGCATTTAAAAACCAATAAACACCAACTCCAGCAGCACTAAATGCAGTAATAGCAGCA
 40 AACACAAAGTAAAAAATTAATTGCATCTTTTAGTTTGTGAGTTGTTCAATACTTTT
 TGAGAAATGGGCTTTTCGATTCTCATTACGCTTACTTGCCACACTTGAGGAAGTTTTGA
 GAGAGAAATTGGACTGGTAAACAATCACTAA~~AA~~AGATGCATGACAGGTCA~~CC~~CAGTTGT
 AGTGAAATTAGAGACAATTTCTGTAAAGGTACTTTGAAAGATCCCAAAGTTCAATAA

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GATGATTGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 527>:

GNMFU55F gnm_527

5 CCCAAAGTTACTCAAGAACTCGCTTAGAAAAATATTAAGGGATGGAAATAAATAGAG
CAAATTTATCAAGAACTGAGGGTTGTAAGAAGAGATGCATTACAAATGATTAAAAAGAT
AATCACAATGAGGATTTAGAAAACCTTTAAAAGCTGAAATAGAAAATTAAACAAAAAT
TATTCTAATCAATTAGAAGAGATTCAAAAAGACAAAGAAGAAGATTGCTAACAATTTAA
10 ATGAATGAAAAGCAAAACAATTCATCAAAAAGCGAACTTCAGTATTCATTGCTTTATTA
GTTGTATTTTCTTTTTCTTTAATTAGCGCATTGCTGATGGTTTTAACTTTTGATCA
CCGTGATCAGCAGATTTCAATTCAGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 528>:

GNMFU56F gnm_528

15 TTTGGAATCAACTTAAGTATGATCACATCAAAATTGTTTCAGAGACCCAGATGACGCTA
AGTTAAGTGATGCCACCTTTGTTATTTTGATATTGAAACCACTGGATTACATGGTAGGT
ATGATGATGTTATTGAGTTTTCAGCAGCGAAAATTAAGAATAACAGCGAGATAGATCATC
AGCAATCTTTTTAAAAATTGACAAACCTATCCAAAAACAATCACTGAAATCACCAAAA
20 TAACTGATGAGATGCTTGAAGCGGTATTGATCAACAGCAAGGTTTAGAAAAGATAAGAA
ATTATCTAGATGATTGTGTTATGGTAGCTCATAATGGTATTAATTTTGATTACCCTTTT
TGCAAACTCAATTTGAAAAATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 529>:

GNMFU57F gnm_529

25 CGGTCATTTTACTACGGTGTAACCAACGTTTCATTGCACAGTCGAGAGATTTCATAAATT
TTAAATTTTATATTTTATTATTACCACATGCGACTTGAAATAGAAACCGGGCTTGAATT
TGTCAATGATCCTGTGGTAAATGAACCTGGCAAGATCTGTTTTTTTCTCCTTTTACAGG
TAATTTAACAAACAACTTAGTTTCAGAAGTCATTTCAATAGATACATTTTATGCCAT
30 TAACTACCCAGGGCATGGTAATAGTGTTATTAACAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 530>:

GNMFU63F gnm_530

CAAAAATACACTAAAAAACAGTTATTATCCATGTTGGAACCTCTATTGGAACCTGGGAA
AGGTTTATTGCTGCTTTACTTGAAAAACAAGTGGTAATTTTCCTTTATGGTTAGCACCT
35 GTTCAAGCCGTAATTATTCCTGTTAATATCCAAAAGCATTTAAAGGCAGCAAAAAAATT
TATAACAAATTGCTAAAAGAAAACATCCGTGTAAATTTAGATGATAATCAAGATCGCTTA
GCTAAAAAAGTTAGACAAGCAATCATTGAAAAATTCCTTTACAACCTATTGTTGGAGAT
AAAGAAATAGAGAATTTAGAGAAGTTGACATGCCGTGGTTTTAAAGGTGAAAAA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 531>:

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GNMFU64F gnm_531

GGCCCTGCTGGTTATATTGCTGCGGAGTATGCTGGCAAACATAAACTTAAAACCCCTAGTG
ATTGAAAAGCAATACTTTGGTGGGGTGTGTTTAAATGTTGGGTGTATCCCAACTAAAACG
TTGTTAAAAAGAGCAAAGATTATTGATTATTTAGTTCATGCCAAAGATTATGGTATCACT
5 ATTAATGGTCAAGCTAAACTTGATTGAAAACAACGTGTTAAACAAAAACAGGAAGTAGTT
GATAAATTAGTTGCAGGGGTAAAAACAATTATTAAGGGTGCTAAGGTAGAAAGTATTGAA
GGGAAGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 532>:

10 GNMFU65F gnm_532

CCAAAAATGGTTTGGACCATTCTTGGTAAATTTCTAATAGTCGGGAGTTnTCCCGTGGTG
TTTGGTGACATTTGCAATAGGTTGTATAAATAATCTAAATTTGGATAAAAAATTACTTTGA
TTATTGGTTGAAATATTAAAGCTTTTAAACGCTTCATTTTATCAATTGATTCATCAATT
15 CTTTGATTAATTAACTAACTTCTTAAATTGCATTTATGAATTTATCTTTAAATTTAATA
GTTGGTTTAATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 533>:

GNMFU68F gnm_533

GGTCAAAAAGCAGCTTTAGAACGATTTAGCAATTAGTAGTGGAACCTTAGCATATAATAA
20 CGAAATTAATAGTGGTTTTAAAGATGTTACTGTTGATAATTTAGGTGATGCTAGAAAGGT
TCAAATAGCTAAAGAAAAACTACTGTTATTGGTGGTAAAGGCAATAAGGATAAAATCAA
AAAGCATGTTGAACTTCTAAACGGAAGATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 534>:

25 GNMFU70F gnm_534

TTGGTCCCATCAATTGGTTGGTAAATTTGGGAGGATGTACAAGAGTTTCTATATGCATTG
CCGGTAGTGAGTTTAAATCCAGTTGAAGCATTGGGGCTGGGATTGTTGTTTAAGCCAATG
GAGTTGCGCATCGATCGTCACTGATTTGAATTTGAACCAAGATGTACCTCTATCTGGCTT
TTGCCCTTTGTTTGGCCAACTACTGTTTAAGGTATATTTAGTCAAAGGTTGTT
30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 535>:

GNMFU71F gnm_535

CCCGCCTTCAGCGCCAAAACCATTACAACATGACATGAACTTTTCTTTCATATTTGAT
GGTTTTGTGCAACCATTAGTCATTTCAAAAAAGTTAATTTCAATTACTAAAGCAATATC
35 AAGGTTATAGGGAACAACAATTTGTTGTTGACGTTTTTTAGAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 536>:

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GNMFU73F gnm_536

CTACTGTTTTTTCATTTGAAGCGGATTCAACTGGCAGAGCACTAGTAAATACTCTAGTAA
TTATTTTGATTACTATCACCATTACTTTTCCACTAGCACTTTTAATTGCAATTGACTTA
ACGAGTACAATAATTCAAAAGTGGTTAAAAATGTTTTAACTTTGTAATTGATTCATAA
5 GTTCAATGCCATCTATTATTTATGGATTATTTGGACTTTCTTTCTTTTAAAGAGTCTTGC
AGTTAAGTGCTGGAGGAGCTAATGGTACTAGTTTAAATAGCAGGCATTCTAACTATTAGTG
TTGTTATATTACTCTTCCGGGTACCGAGCTCGAATTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 537>:

GNMFU76F gnm_537

CCCCCAAAGATAAAACCCCTCGCTTCAGGACATACTATCGCTTCTGCATTAATAGCTTTA
ATAAACTGTGCCATTTGGGTTAGCACAAAATTAAATAGTTGGGGATTGGAAAATACTGGG
GTAATGTCATAAAACAATGTACCTTGGTTGGGAAAATTTTCAAAGCGCTTGATTGCTTGA
TCAAGCAACTTAAAGTTTGTATCCATAAATATCTTTTTTTTAAAACTGTTAATTCCTGC
15 AATTAAGTGCTCTTCAATCTGATCAATCTCTTTAAAGGATGTTTTTGTGTTTAAAGCT
CAAACGGGAATGAACATAGTTGAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 538>:

GNMFU77F gnm_538

GACATCTTCTTTTCTATCCAGGGATAGTTACTTTTAAAGCATGGTGAAGCACGGCATGAAG
CTTTAAAGATTATTCCTAGTGAATTACTTTTAAAGTGAAGTGAAGTCAACCGTGATTAACCCC
TTCTCCTTTTCGAGGCAAAGTTAACTGACCTGAATATGTAGTTCATACTGTTAGCACTGT
TGCTGAAATAAAAAAATAGAAATTGCTGAAATGAAGCGAATTATTGTTAAAAATGCAAA
AAAATTATTTTGACATTAAAGTTAAATAAAGCAATTTATTTAACAAATGGATGTTAGAA
25 CTGAAAGATTAAACGAATTGTTTTTGTGTTATCATAAAAACTTAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 539>:

GNMFU78F gnm_539

AAATTACCTTGCGTTGACAAACAAGATATTAAACCAGAAGAAGCAGACGAACTTAAAAAG
30 CGTTTTGTTGAAGTTGGTGCAACTGTTGAAGTTAAATAAAGATGGCAGTACAACAACGGC
GTTCTAGTAAACACCGTCGTGATAAAAGACGTTCTCAGATGCACTTACTCTACAACTT
TAAGTGTTTGAAGAAATGTGGAAGAAGAAGTTATCACATCGTGTGTGCTCTTGTGGTA
TGTACGGTGAACCTAAGAGTTAAAAAGCTCACTAATT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 540>:

GNMFU83F gnm_540

AGTTAGTTGTAAATTCGCTTCAAAAACACCAAAAGCTCACCAAAGAAATAGACCTTGATT
TCACCAAGCTTGATGAGATTATTGCAACCATTTTGTATGAACTAAGAATCCAAAGACTG
GCTTTACTAACTTCATTAAGCAGTTTGAAAAACCAAGCAAACTAACAAAAAGATAG
40 CTGAAATTACTAACTTGATCATTCAACGCCAACAAATTATCA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 541>:

GNMFU84F gnm_541

5 ACTAGTTTCATGGTAATCAAAGTTAATAGGATCAATTCCTGCATAAGCAGTTTTAGGTAA
AGTACTGGTTTGGATAAACACCATTGCATCTTGTTTTAAACGAGTTTGAAGTTGGTAGTT
CATCTCTTCTGGTTTGGAAATTATCTTAGGATTGGCAAACCTACCCATAAGAATGATTG
GGTTTTTTGATCAAATGGAAAATAAGACCATTCCATCTTTATTGTATGGTTGATAATC
ATGATCATTCTTTAAA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 542>:

GNMFU86F gnm_542

15 CAAGAAAAATAGATCAGTAGGATCAATCCTTTTTATGTACCTAGTTTTATTCTGATTAT
TGCTATTCTAATTGGTCTTTTGTGCTGGTAGTTTATTGTTGCAAGATGTCAATAATTA
TCGTGATTCTGCTTGGGAAGTTAGTTTATTTTCTCACCTAATTTAATTGCAACTTTTTT
TTCAATTTTGTTAACAGGAACAGTAGTTAGTTATCTTTCCCTCGTTATAATTTGCTGA
AATTAAAGTATTTACTGATAAGCTTGAAGAAGTTAGAAAAGCATTGTTAAGTGATAATGC
TAATCACAGTTTATCTATTCAAGAAACGCTTGGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 543>:

20 **GNMFU89F gnm_543**

CTGGTTATTCTTGGCCTTTTTAGCGCGGTTAAAATGGTGCACCTATTTTTGGAGTTTTTT
AAAGCTTTGTTTACAATTTAAGCCAACGCTTTACTTCGTTATGTGCTTCTGTGAGGG
TTGGGGTGAAGTAAAGTCAATCCCTAAGAGTTAATGGTTTCAAGTGGCGCTAAACTAGA
25 ACCTGAACTGAGGAATTTAAAGTAATTATCTTTTCATCTTTTTATCACCCTATTAATTTT
TTTAGCTACTAAAATACCTGCAACTTGGCCAATGGCATACTTGTAACATAGAAGTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 544>:

GNMFU91F gnm_544

30 ATGTAACAGTGTTAATTTAACAATAATGAAAATGAAATTAAGTTAAACAACTAAAA
AAACAATGTGTGAAAGATGCTGAAATTTTCAAACAATCATTAAAGCCAAAATTAGATCATA
ATTTGTGCTCACGTTGTTTTAAAGTGTGTTAAAAAATAATTGTGAAAAGGTTTTTCAGAT
CTTAATCAGATTGATATTTCTCAAGCTTGAAGTTTCTTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 545>:

35 **GNMFU92F gnm_545**

GGCAAAACCCTCTTAACAATCTTTGTACACAAATACTATGGCACTGGCAATAACAATAG
CAATGATAATGCTAAAGGGTAAAGAGATTAGTGAATAGAGAAAATTTGCGTAACCCAA
CACAAAGTTAGATTCACTAACAGATCCTGAAAGGTTGTAAGTTAAAGGATTGGGAGGA
40 GAGATCATACAGATCACTGTTAGCACTAAAACCCTTCTGTAAGCTTAAAAAGAAGGGGAT
AATGGTAAACAAAATTGTTGTTAAAGCGCAGGGAG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 546>:

GNMFU93F gnm_546

5 ACCTTTTTCGCTTTTAGGTAGTTTAAGAAAAGGTTATATGCTAGATGAAATGCTCTTAGA
ACAGTAAATATTTGCTACATCATAACGCTTTAGTTTTAGTTGATACACCAAAATCCGT
AGTCAATTTATTAACCTAAGTAGTGAAGTAGATTTTGATGAATAGCGCTGTAAAATATCCT
GAGCTGAAGATCAAACCTGAGTCTTATGATAGCACCTTTTAGATCTCGCTATTAAAAAG
ATAGTTGAGGTTGTAAAGGGTGTGAACATTAAGATTAAAGGTCCTTTACCTTTGCCTACT
AAAAAGGAAGTGATCA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 547>:

GNMFU94F gnm_547

15 TCCTAAGTTATTTGATTACTTTAACCGAATTTGTTGATATTGGTGATCAAATTGTTGTTA
GTGGTAAGCCAATGTTAACTAAAACAAAGGTATTAACCTTAGCTGTTGAAGAGATGAAAA
TCATTGCTAAGTGTTTATTGGTTCCACCTGAAAAGTGACATGGACTTACTGATATTGAAA
CCCGCGCTCGCAAGCGCTTTCTTGATCTTACCTATACTTAGCAATGCGTGATGTTTTTC
TGAAACGCACTAAGATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 548>:

20 **GNMFU95F gnm_548**

CAAAAATGAAGTACAGATCCACGGAGGAGGAGTTGATTTAAAGTTCCCCCACCATGAAAA
TGAAAATGCCTTACACATGGCTTTATATAACCAGCCATTACCAAAACATTGGATGCATAT
TGGTCATTTGATGATTGAAAACCAAGATGTCAAAGTCATTGCAGAACTTCTTGTTAGC
25 AGTTGATTTTCTTAACCTTTCATGATTTTCGTGTTTTGCGTTGGATCTTTACCAAAAACA
CTATTAGCATCCTATTGATCTAAACCAATCATTGATTGAAAAGCTATAATGATATTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 549>:

GNMFU96F gnm_549

30 AACCTAGTGAAGCAATTGAAGCAGTATTGAAATATTGGAGTTTTCATCAGGACTTAAATT
TCATTCTGATCGGTGATGAAAAGGCTTTTGATGGTCTTGATATACTTCCAAAAATATTA
CAAAAAAAGTCTGCTAATTCTTTCATTGAAATGACCGACACTCCACTAAGTGCAAGAAGAA
AAGTTAACAGTTCAATGCAAATAGCCATAAAGTTAGTTCGTGAAGGTAATGCTGATGTTG
TAATTTACAGCAGGCTCTTCAGCAGTTTATGCTTCTTTAACAAATGATGCT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 550>:

GNMFW16TF gnm_550

40 CAGGCATTTATCTGGAAATAACTGAAACCGAACAGACCTAGATTCCCGCCTGCGCGGGAA
TGACGGCTGCAGATGCCGACGGTCTTTATAGCGGATTAACAAAAATCAGGACAAGGCGA
CTAATCCGCAGACAGTACAGATAGTACGGAACCGATTCACTTGTTAAAGAATCGTTCTCT
TTGAGCTAAGGCGACGCAACGCCGTACTGGTTTTGTTTCATCCACTATACTAAGGAAAT

-788-

5 TCAAATTAAGTTAGTAATTATCCCTATGAGAAAAAGCCGTCTAAGCCGGTATAAACAGAAT
AAACTCATTGAGCTATTTGTGCGAAAGTTCAAATTTCCATTTTAAAAACAATTAGTAAAATC
GAGTTTATCCTAATTGTCCAAGACAACCCCTATAATACTATAATTGAGAATATAAAAAATG
GGTTACATCTAAACATTACGGAATTTTATCCCTCGCCTGAATTCTATTGTCAGATTCA
ACGAGACCTCATGTCAACGACTCCAACCTTCCCTACACAGACTTTCAAACCGACTGC
CATGGCGTTAGCTGTTGCAACAACACTTTCTGCCTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 551>:

GNMFW46TF gnm_551

10 TTGTTAATATATTTTCGCGATTAAACGTTTCTTAATATTAATTCGGGTACAATCCTTTCCG
CTGATTACCGCTGCCGTTTCTCCCTTTTCGGCAGTGCAGCAAGTAAGACGTTTCCCGCA
ATGTATTGACCATTCACTTACCCTTGGTATGAATGGTTTTTTTGCACGTTGAAAATG
CCGTCTGAACGTTGGGTACCGAGCTCGAATTCGTAATCATGGTCATAGCTGTTTCTGTG
TGAAATTGTTATCCGCTCACAATCCACACAACATACGAGCCGGAAGCATAAAGTGTA
15 GCCTGGGGTGCCATAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCGCT
TTCCAGTCGGGAAACCTGTCTGCGCAGCTGCATTAATGAATCGGCCAACGCGCGGGGAGA
GGCGGTTTTCGTATTGGGCGCTCTTCCGCTTCTCGCTCACTGACTCGCTGCGCTCGGTC
GTTTCGCTGCGGCGAGCGGTATCAGCTCAATCAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 552>:

GNMFW72TRC gnm_552

AACCGCTCTGCCGTCATTCCCGCACAGGCGGGAATCCATACCTTAGCACAAACAGTAATAT
TCAAAGATTATCTGAAAGTCCGAGATTCTGGATTCCCGCTGCGCGGGAATGACGAATTT
TAGGTTTCTGATTTTGTCTTTTCTGTTTTTGTGGGAATGATGAAATTTTGTAGTTTGTAGAA
25 TTTATCGGCAAAAATAGAAACCGCTCTGCCGTCATTCCCGCTCAGGCGGGAATCTAGACC
TTAGAACAACAGCAATATTCAAAGATTATCTGAAAGTCTGATATTCTACATTCCCACTTT
CGTGGGAATGACGGGATGTAGGTTCTGTTGGGAATGACATGGTGCAGGTTTCATGGGAATGAC
GTGGTGCAGGTTCTGT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 553>:

GNMFY91F gnm_553

GTGCGCCGATTTTCAAATCTGTTTGAACACCGCCCAATCCGGTTTGCCGAATTTGCGCG
TCAGTCCGAATGGGCGGAAGAAATTTTCTTGGCGATATGAATCTCCTTTGGCCGAGTCT
GCCGCTTCTCGATCTGTTTTCGGCGCCAGTCCGCGAGCTGCGCCGCCCAAAGCGGGCATA
35 CGAATTGCGGTAAACGAAATATAGTTTACGCGGCACGTTCAACACAAACGCCGCAAGC
TGACCAACATAATCAGGCGCGGGCGGTTTTCAGGCTGGAAGTGTAGGCGTGCAGCGCGCGGT
GTACCATTCGCGCGGCATCGCCAGCTGGTGAACAACATATACTGCGCCATCGTGCCCTT
CCACATAATCGCTCAAGGTCAGCCAGTTGCGGAAGGCGTAATCGCGGCCACATCAAGAC
CATGCCGAACACGCCCAAAAACAGCCCGAACCAATCCCTGCGGCCCGGTTTCGCCCCAC
40 TTCGTCGGTTTTACCGCGCCGTAAGCTGGGCAATCATCGGGTTTCAGCGCGCCGCAAT
GCCCATAAAGGTAATATAAACCGTGGCAACGCGCTGCTGCCCAAAGCCAACGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 554>:

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GNMGA51TR gnm_554

AAATTATTTTATTTTGTATGAAAACCTTCGAAAAACATGGTCTGCACAATATCGGGAT
ATGGAAATTTTCAGTACGGAATTTTGGAAATTTGGAGCGGACAAGGGCGGAAGTCTATATC
AACGGAAGGCGGGTTTATCATAACGAAGCCGAAATGGCGTCTGCTTCTTTGCGTTAGCTA
5 ATGGGGGAATACCTGGAATTTGAAGAAAGCGGTACGAAAATTACCGTTGAAATCGGCAGC
GCGTGGCATTTTAATGAACTATAAGAAATATTAATACACATTTAAAGAGGTACGAACT
TC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 555>:

10 gnm_555

AAAGACGGCGTTGATGGTTTTAACATTTGCGCTCATTTCGGATTTGAGCCATGGCAATCTT
CCTTTAATGTGGTGGAAATCATGAGTGTGCGGACACTGTACTGCTGCCTCCGGTCGAAC
TGCCGTTTCGGGATATGGCAGACGCATCCTTCCTAACCGCATCCGAATACCCCCAACCT
GACCGAATGCAAACTGCTGCGGAAACGGTTGTATGACACTTCTACTACTGGATGTTG
15 CGGGCGCATTTATAATATTTTCCATCCGTCTTGAAACATTTATTTACACTTTATTTACAC
TGCGGCGGCAAAATCGGTATACGAGCGTCAATACACGTTAAATGGCGTTTGCACCAAGTT
TGGGAGTGATGATGGAAACACAGCTTTACATCGGCATCATGTGCGGAACCAGCATGGACG
GGGCGGATGCCGTACTGATACGGATGGACGGCGGCAATGGCTGGGCGCGGAAGGGCACG
CCTTTACCCCTACCCCGGCAGGTTACGCCGCCAATTGCTGGATTTCAGGACACAGGCG
20 CAGACGAATGCACCGCAGCAGGATTTTGTGCAAGAACTCAGCCGCCTATATGCGCAAA
CCGCCGCCGAATGCTGTGCAGTCAAAACCTCGCACCGTCCGACATTACCGCCCTCGGCT
GCCACGGGCAAAACCGTCCGACACGCGCCGGAACACGGTTACAGCATACAGCTTGCCGATT
TGCCGCTGCTGGCG

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 556>:

gnm_556

CTAGAGGATCCCGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGGTAC
ACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGA
GTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGTGTGTTGTTTGTTC
30 AAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGGTACCGAGCTCG
AATTTCGTAATCATGGTCATAGCTGTTTCCTGTGTGAAATTGTTATCCGCTCACAATTCCA
CACACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCTAATGAGTGAGCTAA
CTCACATTAATTGCGTTGCGCTCACTGCCCGCTTCCAGTCGGGAAACCTGTCGTGCCAG
CTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCCTATTGGGCGCTCTCCG
35 CTTCTCGCTCACTGACTCGCTGCGCTCGGTCGTTTCGGCTGCGGCGAGCGGTATCAGCTC
ACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAATGT
GAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGCTGGCGTTTTTCC
ATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAAGTGCGGAAA
CCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTG

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 557>:

GNMGJ04R gnm_557

CATTCCATAGTTTGCCTTTTTACTCTGTTAATTGTGTCTTTTGGTGCATAGCAGTTTTAA
AGTTTGATATAGTCTCACTTGCTATTTTTGCTTTTGTGCTGTGCTATTGGTGTGATA
45 TCCAAGAAATTATTGTTATATCCAATATTATGAAGCTCTTCTGTGTTTTCTTCTAGG

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5 AATTTTATAGTTTTTTATTTAATGTTTAGGTTTTTAATCCATTTAGAGTTAATATTTG
CTTATGGTGTAAGATAAAGGTCTAATTTCACTTGTTTGCATGTGGATGTCCAGTTTTCCC
AGGGCCATTTGTTGCAGATTGTCTCTCACCCATTCTTTCTACCTTTAACACTGCTGTG
AATGGCCTTTATTTTCTACCTTACACCATTGACTCTCTCCTTCTAGAAAAAACCTTT
CTCAATCCCACCTTAAACTCATTAGTGGATTGCATTGGTCTGGATTATCAGAGGTTTCTG
TAATTAGGTTGGCTGTGCCAATAAATATCTTCATGGATATCCTGAATTTGTTTGTATAA
AGAAGAAATAGGCAGATGACATTGGTAGTGGATCGGTGAGAAATTTGCAATAAACTCAA
ATGTGCAAGATGTGCCACATTTGTGTTTCTTTCTCAAATTACAAATATTGGATTGGC
CTCCATCCGTCACAATTTCTGGGCAATTCAAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 558>:

GNMGK65TF gnm_558

15 AGCATGGGCAGCGTATCGGCGGCGGCGGCAAGAAAGCTGCCGCGCAAACACGACCAGT
CCCGCATAAATGGTTTTCTTGCGCCCGAACTTGTGGAAGCGATGCCAAAGGGAATTTGA
ACAAAACCCGGGGCAACCCCTTAATGGCCAATGGCAACCCCGACAACGGTTTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 559>:

GNMGL93TR gnm_559

20 CGTCTGAAGGCTTCAGACGGCATTGTGCGTTTGTGCGGCGGTGTTTAGGGGGCGGTAAC
GGCGTGTTTCGGCACTTTGTCCATATCCAGTGTCACCGCCAGTCGAGCAGTTTCGGC
AGGGCGGTGCGTTTCCGGTGCTTCGGGCAGCTTGAGGTAACGGAACACTTGGCGGATGAG
TTGTTTCGCGCGGTTTAAAGCCAATGCGGGGGCGAGCGTCTGTTTCGACCAGTTCTGCCC
TTGTGCGTTGGTCATCAGCGGCAGGTGGGCATATTGCGGTGTCTGAACGTCCAAACACTG
25 CTGCAATAGGTTTGGCGCTGCGTGGAACGAGCAAGTCTTGTCGCGGACGATGTGGGT
AACGCCCTGTTTCGGCATCGTCGGCAACGACGCGAGCTGGTATGCCAGTAACCGTCTGC
ACGACGCATGACGAAATCGCCGATGTCGCTGGCCAGGTTTTGGGCGTAACGCGGACGAT
GCCGTCTGAAAAGCCGATAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 560>:

30 **GNMGO35TF gnm_560**

AGATGACATATTCATAAGTTTCCCGAAATCCAACATAACCGAAACCTGACAGTAACCGT
AGCAACTGAACCGTCATTCCCACGAAAGTGGGAATCTATAAATGAAAAGCAACAGGCATT
TATCGGAAATAACTGAAACCGAACAGACTATATTCCCGCCTGCGCGGGAATGACCGCTGC
35 AGATGCCCCGACAGTCTTTATAGCGGTTAACAAGTGTCAGGACAAGGCGGCTACGCCGCA
GACAGTACAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 561>:

gnm_561

40 AGCATGGCGCACAGCAATGCCGTCTGAATACGCCTCCGCTCGGTACACGGCGAGATCGG
CAATGGCAGCGGTACTTTGGCCCGCATATGCTTAAGTTCAGTAACCTTACGCCACCAA
ACCCTTGCTAGCTAAGGGTTAAACAGCTCACTTGAAATCTACTTAAGTCTAATCTAACT
ATCCAATATGGATAGATTTTTAAACATAGGGCAAGCAGCAAAATTATTGTAGCTGAAAGC
ACAATCACTCGCTGGTGGTCTCAAACACGTGCCGACTACCTCGCCGAAAACACTATCAGC

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CGCGATAAACCGTGGGAAAAGCTCGTTATCAGCCGCCGCACTTGGTACTATCGCGGGAAA
CCGATGCTGTCTGAAACGCAACAGGAGAAAAATAATGAGCCGTTACCTGATTACCTTTGA
TATGGATACCAACTGCCTGAAAGACAATTACCACGGAAATAACTATACCAATGCCTACTC
5 CGATATTAAACCATCTTGGCTAGACATGGATTGAGAACATTCAGGGCAGTGTTTATCT
AGGCCGTGAAGGCATCAGTGAAGCACACGGAACAATAGCCATTGAGGAACAGCCGCTCG
GTTTGATTGGTTTTACTCCTGTATTCAAACATTAAGTTTTACCGCCTTGAAAGTGATTT
GAACGCACAATTTATCGCTGATGGTGTGTATCAAGCCAAACAGGCTTTCCTTCAACGTGT
TGAACAACCTTCGTATATCCCTAACAGAAGCTGGATTGTCTGATGAGCAAATCAATCAGGT
10 TCTGGAAAAACAGAAATTTGAATTGAAAGTCCTAACCTGAAATTAATTAACCTCCTTT
ACTCACCACATCCGCCGAGCTCTGTCAAGTTTTTGGCGCGCTGCGGCGATTCTGTGCG
TTTTAGAGCTTCGGGTAGGGTGTGAAACAACCTCACTCGAAATTTACTTAAGTCTAATCTA
AACTATCCAAGCAGTAATTAGTACAAWAAAAGGCAAACCTATTTTAGGAGTTAAAATTGC
AGCTGCGATAAACCGTGGGAGAGTCTCGGCATTTCCCGCGCCACTTTGTACAAACGTGGC
AA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 562>:

gnm_562

CATATAGCCGATGGTATAGATATGCACCATCAACGACACGCCCGTTACCACGACCATCAT
CATCGCCGTCATCGTATCGACCAAGAAGCCGACGGAGAAATCCAAGCCGCCCATTTGTCAG
20 CCAGGTATAGACATTCTCGTCAAACGTGGCGCGGCTGCCGTCAATAAAGCCCCACAGCAC
ATAAGCCGACAGCACGGCGGACACCGCCACGCCGAGTATCGTAACCGTATGCGCACCGGC
ACGTCCGATTTTGTGCGCAACAACCCGCAATCAGCGAGCCTGCCAACGGAACAAGGGC
AATTATCAAATATAAAGTCATATCGTTTCAATTTGATTGAATCCGATTGATTTAAAAATCTA
TGTTTTGTTTCGTACAAAATTACTTCGGAAAAACAAATCCAACACGCTCCAATCGTTTGCG
25 TGCCACAGCTAATTGCTCTTCAGTAAATAAATCACACCACGGCTTTTGTAAACACAGATA
TTCCATACTGATTTCAAGGCGTGGACTCCGCCACCACTCAAATCAGCTTGCTCGGCGG
CGGTTAGTTCGGAGATGACCACTTTGTCCCCCTCTTTCAACCCGCTTTTACTTCGGTAT
TCATACTGTCTCTCA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 563>:

gnm_563

CTTCAACCATGCCAAAACGGGCAGGACGGCGGTTGTGCACTTGCTCATCAACACGCCCGC
CATCCAAGACTTCATCCTGAAGGGCGACCTGATGAACATCAGTAAATCATGGAAACCGC
35 CAAAACCGCAGGAATGCAGACGATGGATCAAAACCTTTTCGAACTGTACCGTCACGGCAT
CATCAGTTACGAAGAAGCCCTGCGCCAGTCCGTTTCCGCCAACAACTGCGATTGCACAT
CCAACCTGCACAAAGAAGGCAAAACGCCGAACCTCTTTACGACAGGGTCAACGGTCTCAA
CCTCATTTCTGATCCGCAAAACCAATGCCGTCTGAAAACCGCATCCCCGTTTTTCAGAC
GGCATGATTTTATCCGTCCG

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 564>:

gnm_564

CGAACAGTCGGCATTGCGCCCCGAATTGTGGCAGGCGTTCCGACCGTTGGGGCTGACGCA
TTTGGTCAGTATTTCCGGTTTGCACGTTACGATGGTGGCGGTGATGTTTGCCTGGCTGGC
45 GAAGCGGCTGCTTGCTGTTCCCGCGCCTTCTGACGGTCGCGCGTGTGGGTTTTGCG
GGCGGGGTGTGCATGCGCTCTGTTTTACGCGCTGCTTGCCGGTTTTTCCGTGCCAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 565>:

gnm_565

```
5 ATAGCGGATGTGGTCAAGTGATCGACGAATACAGCAACCGCCCGCACGGCGAGCTGCCC
CGACATCCTGACGGCGGGCATTATACGCCTAAGGCTTATCGGGAAATGAGCCTGGAACAG
GACGGTATCGCGCCGGATATGCTGTGGCGCAAGAGCTGGCGACGATGTTATCCCGCAA
GAGGTGCGAAAGTTACAGCGCGGCTGGCTGGATCATGCTTAACAACCTCTTATTTCTCAAC
CGAGCTGGCGGAGTATCACAAAGACGAGGTACGGGTACGCTACGATCTGAGCGATGCGTC
10 GGCGGCAATGTGTTTGATATGGACGGCAAGTTATTACTAAGGCGCAGGCCAACGGCAA
TACCCGCGAGGCTTCCCGACGGCTCGTATCGACCGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 566>:

gnm_566

```
15 CCTGGGTTTCATCGTCTTCTTCCCAATCTGACCCCAAACATTCGCCTTTTGGTTTGACGTG
ATGACAGGTAAACATACCTTTATTTTCGGTCTTCACGGGCTTGGTTCGGGCTGTATTCGCC
GTTGAAAAAGTCTTTTTCGATGTCAACGCGTGTGATTTTTGGGCGGATTGCATTAGTCAG
GAATGAGAAAAGTCGTGATTTCCAGCCTTCTTTTTCGACGCCGCAACCGGTGCCGGTCAG
TTCGAAAAGAATGGCATTTTGTTGGCCGCCAAAATGGACGCGACCGTATAGGGCGTCTTC
20 CGAACCCTCAACCAACAGAGCTCATACATACGACCGCCGAACTTTGGATTCTTTGTA
GATACCGGAACCGACAACCTTCTTCGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 567>:

gnm_567

```
25 CCGGCATCCTGCCCCAAGCGATGCTCAACTATCTGGCACGCTTGGGCTGGGCGCACGGAG
ACGATGAGTTCTTCACAATGGAACAGTTCATCGAATGGTTTGATTTGAAAGACGTTTCCC
CGTCTCCAAGCCGATGGAAGTTGAAAAAAGTCTACTGGATCAACGGAGAACACATCACAA
TCACACACAACGGCAAAGTTCGCCGAAGTTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTC
ATGAAACCGAAGAAGCTGCTTTGGAAGATGTGTTGGAAGTGGTCAAAGACCGCACCCAAG
30 ACTTGGTCACGCTTGCCG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 568>:

GNMGS92TR gnm_568

```
35 CGCCCAAGAGTGCGGACATCGGTACGAAATGCGCGTCTTTCAAACCGAGCTGTTTCGGCAA
GTCGGCGGTATGCCTCCACAATGGCGTTGAATTTGTCTTCGCTGTAATCCAGCAGGTCCA
TTTGTGTGACCGCCACCACAATATGCGGGCAGTTGAGTTGGCGGAGGATGGCGGAATGGT
GTTTGGCCTGCGGCAGAAGCTGCAAGGGCTGCGCGCCGAAATCCAGTTGGGATGCGTCAA
CCAGCAGCACTGCCGCCGAAGCGGTGCTTGCGCCCGTAACCATATTGCGCGTGATTGTT
CGTGCCCCGGAGTGTCGGGGATGATGAATTTCCGTTTCGCCGTGGAAAAATAGCGGTATG
40 CCACATCGATCGTAATGCCCTGTTTCGCGTTTCGGCTTCCAGTCCGTCGGTCAGGATGGCGA
GACCAATGCCACGTTTCCATGCCGCTTGAAACCGGCGCGCCGTTCCCGT
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 569>:

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GNMGS94TR gnm_569

ATCTGCTTTTTTACCGCGCGCGGTTTGCCGTCTTTATTGGTAAATTTGGGCGGATCGAT
TATGCTGCCCACAAGCCGGTAATCCACTTCGAATTTATGGCATGAATGATGAATCAAAAA
CCGGTTGAAGCCGTTTTTGCTTTGGGCGATGGTTGCATATTCAAAAAATCGCCAAT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 570>:

GNMGT51TR gnm_570

CAGGATCCTTGGTGGCCTCCTGCACGGGTTTCGGGCAGGCTTAAAAGGCGCAGGCTGTTGG
AAATCGCGCTTCGGCTTTTACCAGCGGCTTGGGCGATGGTTTCGTGGGTGAGCCGAAC
10 CGTCGGCAAGGCGTTTCAAGCCTTGTCCTTTCGATGGGGTTGAGGTTTTCGCGCTGGA
GGTTTTCGATCAAACCCATTGCCAATGCGGTTTCGTGCTGATGGTTTTGATAACGGCGG
GGATTTTCGGTCAGGCCGGAATCTGTGCGGCGCGCAACGGCGTTTCGCCTGCAATCAGTT
CGTATCGGGACAGTCCGTGTTTCGCGCACGATGACGGGCTGTATCACGCCTTGCGCCTTAA
TCGAATCTGCCAGTTCTGCAAGGCTTCGTCATCGATTGAACACGCGCCTGATAGCGGC
15 CGGGCCGGATATCTTTAACCGCAACCGTGGTCAATCGGTGCGCGCTGCTGTTGTCGCGC
CGTTGGCGAGCAGCGAATCCAAGCCGCGCCCAATCCGCCTTTTACTTTTGCATACCGC
CCTCCCGTGCTATTACAGATAGGATGTTAAATCGGGTATTTTATCGGATATTGGGTGTTG
CCGACAATTTGTATCCGCGTTTATCGGATTTCTGTTTTTCACTATAATAGCCGGTTTGC
CGTTGCAnGCGGTTTTATGGG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 571>:

GNMGT89TR gnm_571

GCCTGTATGCTCTTCTTTGAAAGTTTCGTATACGTCATGGGCTAAAAGGGCTGTTCCGAC
ATAAGGAAGTGCCTTGTGCTTAATTTTCGCGCCTAAGCGGGCAAGTTTGCCGACCCCCGC
25 CAATACGCCAGCGCGGGAAACTGATGAAGATACAACCGAACTAATTTACCCGTAATTGA
TGCTCCAGTAGATACATGCCTTACTTTTAAATCTTGAGCTTCTGAAGTTAAATATCTTCC
CGATTCTCTATCAAATACACCTTCCAAATCTTCTTCTTTTGTCTGTAACCTCGAAT
ACCTAAnATAGTGGAAAnGnTCCGACAGCAGAGTCCCAAGAAATTAACCGGAGCATTTA
CTGATGCCAATGCAAATTTAGTACAAAAAACTAAAGCATAGGATAATCTTTAAAAAAT
30 TTGCGCCTAGGATAATAAACATAACATTTTGCTTCATCTAATTTAATTAATAATGTAGAA
GAATCAGGGAATTGAATTTCTATAAAATCTCTATCATAACGATGAAAGAAATTCCTAAAA
ATATCAAATGAAACGAAGTTTAAAAACCCCTTTCTAATCAATTCCTATAATAAAT
AACGCTTGTGGTAAATCTCTATAAATATGTGAATCAGTTTGAAAATTTAACTAAATGATA
TTCAGAAA

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 572>:

GNMGT90TR gnm_572

TGAATATCCAGTCCAACCTTGACGAACCTTTTCCGGCAGCATTACCGGTAACCGCGCGA
AGAAGCCAAAGCCCTGCTAGGCGGCGGCAGCGTTACCGTTTCCGAAAAAGGCCTGACCGC
40 CAAAGTCCACAAGTTGGGCGACAAAGCCGTCATTGCCGTTTCTTCCGAACAGGCAGTCCG
CGATCCCGTCCTGGTGTTCGGCATCGGCGCATGCGACTTCCAACCAAACCGCACCGCCAT
CCTCGATCCTGTGCGCTACTCGCCAAAACCAAATCTGCACTTTCAGACGGCAAGACACA
CCGACAGCAGAACCATTTATGCAGAGTCCCAAGAAATCAAACGCCAAATCCCATACCAT
TAATCAGAAATCTTCTATTTTTCGAATCCACTATTTCTTCCAAAGCGGCAAAACCCAT
45 ACCGTCCGCAAGGCGAAACGGTCAAACAGATTGCCGCGCCATCCGCCCCGAAACACCTG

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ACGCTCGAACAGGTTGCCGATGCGCTGCTGAAGGCAAACCCAAATGTTTCCGCACACGGC
AGACTGCGTGCGGGCAGCCTGCTTCACATTCCGAATCTGAACAGGATTAAGCGGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 573>:

5 **GNMGU42TR gnm_573**

CGTTGTTTCGGTTCGGTTTTTCGTCATACCAAATTCCTTATTTCTTCTGCTGAGATTTATG
AATTATTTGTGCAGCCCGCATTCTTTGCTGTTTCTGCCTTCCCACCACCACCGCCCGGAG
CGGATGTCTTCGCCCCGCTTGACGGGGCGGATGCAGGGGTGCGAGCCTATGCTGGGAAAT
10 CCTTGACGGTACAAATCGCTGTGAGGCACATTGTTGGAGAGGATGTATGCCACACGTCG
TGTTCCGACTAGTCGAAAATCGGGTGTATTTGCCGATGCCCCGTCCGSCATCGTATTTCG
GCATACAGCAGTTCCGTGCGTGTGGCGGATTGTTGCGGGCGTTGCCCGTAAGCCACGCG
TCCGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 574>:

15 **gnm_574**

TGTCGCGCTGACGCGTGCCGAGGAACAGCTCAACATCtAtTcSGCgTaCTCtCCAAkACs
GCaAAAACAACCCCCcGCCTACwTGATTGAAGGCTCGccAgaCaTsCGCGGGAATGACGG
CATTCTGCGGCAATCGGATTATTTCCAAACCAAAGCGCGTGGTTGCGTTTGCCGCGCC
GAAGGATAGTGATTTGCCGAAACGTTTGTGTTGCGCGTTCAGCAGGCAGGCATCGTCGG
20 GCGTTTCGGCGCGGTGGTTGGGGTTGTTGGCTTCGCGAGGTTTGCCGTTGAGCAAAACCG
CTTTGCTGTTCAAAAGCCGCGCGCTTCTTTATTGGAGGATGCCAAACCGGTTTTTACCA
AGGCTTCGACGACATTGATGCCGTCTGAACTTCAAATGCAGGCAGGCCGTGAGGGCGA
GCTGCTCGAAGTCGCTTTTCGGTCAGGCTGCTTTGGTCTTCGGCAAACAGGCTTTTCGAAA
TGCGTTGCGCGCGCGCAAGGGCTTCTTCGCCGTGAATCAGGCGGGTCATTTCTTCGGCGA
25 GGATGCGTTGCGCTTCGGGCTTGCTGCCGCTTGCTTGTCTTTGGCTTCGATGGCATCGA
TTTCTTCGATGGACAGGAAGGTAAGTATTTAGGAATTTATACACATCGGCATCGGCGA
CTTTAGCCAGAAATTGGTAGAAGTATrGGCGAGGTTTTTTTCGCGTTCAGCCATACCG
CGCCGCTTCGGTTTTTGCCGAATTTGGTACCGCTGATTTGGTTACCAAGGCAGGGTCA
GACCGAATACTTGTTTTTGGTGCAGGCGGCGGGTCAGGTCGATACCSCGGTGATATTGC
30 CTCATTGGTCGGAGCCCGCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 575>:

gnm_575

TACCGCGCACGGGCGTTTTGAAATAGAAACCGATCAAGAGATACGACACCAAGCCCACCGC
35 TTCCCAACCGAAGAAGAGCTGAATGAAGTTGTTGCTCATAATCAGCATCAACATACTGAA
TGTAACAACAAAGAAATATAGCTGAAGAAGCGTTGGTAGCCGACTTTTTCATCGTGATATA
GCCGATGGTATAGATATGCACCATCAACGACACGCCCCGTACCACGACCATCATCATCGC
CGTCATCGTATCGACCAAGAAGCCGACGGAGAAATCCAAGCCGCCCATTTGTGAGCCAGGT
ATAGACATTCTCGTCAAACCTTGGCGCGGCTGCCGTCAATAAAGCCCCACAGCACATAAGC
40 CGACAGCACGGCGGACACCGCCACGCGAGTATCGTAACCGTATGCGCACCGGCACGTCC
GATTTTGTTCGCCGAACAAACCCGCAATCAGCGAGCCTGCCAACGGAAACAAGGGCAATTAT
CAAATATAAAGTCATATCGTTTCAATTTGATTGAATCCGATTGATTTAAAAATCTATGTTTG
TTTCGTACAAAATTACTTCGGAAAAACAAATCCAACACGCTCCAATCGTTTGGTGCCAC
AGCTAATTGCTCTTCAGTAAATAAATCACACCACGGCTTTTGTAAACCCAGATATTCCAT
45 ACTGTATTTCACCGTCATTCCGGACATTTCCGCCCTGCTCGGCAAACCTTTGTGCGACC
TGCCAAAACCCAAGCCAAGCACTCGCCCGGATAGA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 576>:

GNMHA81TRB gnm_576

5 AGAATACGCGCGGGTCAGAACACGCCGACCACCGTCCGGGTTTTGTCGTTTTGAAATATT
CCTCTAAATACGGCAGGCGGTTTTATCGACGGACAAACCGGTTTTACGCCAGTTTGC
TCAAGGTGTCGAGCATACCCAAATCGTAAACGGCGATGCGTTCGGGGTTTTGCGGTATTT
GAACGTCGCCGCGCGCGGTTTTGACGGTAACGGACGCGCTTCGGTTTTGTGCGGCGGAAA
CCGCTGTTCTTTGGCTTGTGGGGCAGAGTCGGAATTTGCGGCGAACACGCGCCCAAAG
10 CGAGGGCGGTGCATACGGCTAAAGCAGTCAAACGTAACATACGTGTCTCCAAATGGGGG
ATATTGGGGCAAAGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 577>:

GNMHC73TF gnm_577

15 TACTCTAGAAGGATCCCCCGGCTAAAGAACTCGGCTACGCCTCCGACCTCGACCTCGTCT
ATCTCTACGACGACCCCCACCCGACGCGAGGCGACGTGTACAGCCGCTCGCCGCGCC
TGACCAACTGGCTTTCCGCCGCCACTGGCGCAGGCGAGCCTCTACGAAACCGACCTGCGCC
TGCGCCCTAATGGCGACGCGCGGTTTCCTCGCCACAGCATCGCCGCTTTGAAACATACT
AGCGCGAAAACGCTGGACGTGGGAACACCACTCGCTTACCCGCGCCCGCTTCATCTGCG
20 GCACGTCCGAGATTGAGGCGGCCTTCGACCGCATCCGCACCGAAATCCTCACCGCCGAAC
GCGACCAAACCGCCTTGGCAGGCGAAATCATCGAAATGCGCGAAAAACATGTTCCCCACC
CACCCGCTTGGCAGACGAACGTCAAATACGCGCGCGGTGGCGTGGCCGATGTCGACTTT
ATCGTCCACTATCTGACACTTGCCCATGCCCGACAGTATCCGCAACTCTTGACAACACTAC
GGTACCATCGCCCTCTTAAACATCTCCGCCGACTGCGGTTTGATTGACAAAACCTCGCC
25 GGCCACAGCCGCACCGCCTATCGCTTCTACCGCCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 578>:

GNMHF24TR gnm_578

30 AATTCCAGCTCGGTAGCATTACGAATTCGAGCTCGGTACCCAGCACAAACCCCTTACATGT
ACCTTGTGTGGTGTCTATTGGATCCTAGCAAGAAAGGTATCCATTTGTTCCCAACAAAATC
TTTATCATGCACGATTGAGTAGGATCCGCTGTTATAAGTTTTGCCGTCTGCACCCGTATA
GGTATAGCCGTTTTTCTGTAAAACATCGGCGTAATCATTCTGCACATTTGTGGCTGTACC
ATAGAAACGTGCTTTTCTGATTGGGGCAATGCCATTTGTTTTTGATTGTTTACCCAATC
TTTTAAGGAAACGCTTGCTGTAATCCCCACGACTGTGATTACTGGTATCAACCGACCA
35 GCCGTTACCCATTTTTTGAACCTCTCGATAAATATCTTGATTGATTTTTCTGAATTGGT
TTTGAGTAAATAGCCTTGGCACACTTTATTATTTAATTGGTCGTAACCGACATACATCAG
TTCAGAAACAAGACTTGCACCGAGCCATAAAAAATCTTTATTTTGTATTAGAAATCAGA
TTTATATTTCCCTGTTGGAGGATTCATGACTGCAATAAGCACACTACCGTTGTACTAAT
ACGATGTTGTTTGCTGCGTTG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 579>:

GNMHF55TR gnm_579

GTAATATCCGTACTGTCTGCGGTTCCGCCGCTTGTCTGATTTTTGCTGATTAATATAT
CGACATCGCCAAACGAGACTTCGTATCGCCGTTTCGTCTTTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 580>:

gnm_580

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5  AATAGATTAAGATATAACTATTAAATATTTTATAGATAGGATTATCGGAATTAAAGTCTT
   TTATACCCAGTCGTCCGATGCGGTTTATAGCGTATTGTTGCTATATGTTTCGTTATGTTAT
   ATAACGGTTGCATCAAAATTTACGCCCACAGGCTTTCCCGACGGTTTGAAAGTTTGATTT
   TCGATAACTTGGAGACTTAAACAATGCCTACCCAATCAAACATGCGTCTATCAATATCG
   GTCTGATACAGGCAAGGGAAGCCCTGATGACCCAATTCAGGCCTATTCTGAATCAGGCGA
10  ATATTACCGATCAGCAATGGCGGATTATCCGTCTTTTGGCGGAAAACGGCACGCTGGACT
   TTCAAGATTGGCGAATCAGGCGTGCATTTTGCGCCCCAGCCTGACCGGTATCCTGACCC
   GCCTTGAAAAAGCGGGTTTGGTTGTCCGCCTGAAACCTTCCAACGACCAACGACGTGTTT
   TTCTGAAGCTGACTGCCGAGGGCGAGAAGCTGTATGAGGAAATCGGCGAAGAAGTGGACG
   AACGCTACGACGCTATCGAGGAAGTGCTGGGCCGCGAGAAAATGCTGCTGCTTAAAGACC
   TGTGGCAGAACTTGCCAAAATCGAGGATGCGTTGAACTCGTAATACGCCGTAACGCGCG
15  GAAACGTCGACCGACGGCTTTTGAATCAAACTGCTGCACATGGGGGATGCCTTGTTG
   GCAGCATTCTTATATAGGGGACAGTTTAAAGGGGAAAAATGGCGGATTGCGAGAAAAAT
   TTCAAATTCGTTCCGTGATGCGATGGCATCTTGCGCGGCAGGCGTTTATGTCATCACGA
   CAGACGGTGCGGCAGGCGTTACGGCATTACAATGACGGCGGTGCGGCCGTTACCGACG
   AGCCGCCGACCGTGATGCTGTGCATCAACCGGAGTGCGCGAATCATTCCGATCCTGTCGG
20  AAAACGGCAGCCTCTGCATCAATACGCTGGCGGACGAACATCAGGATGTTGCCGAACATT
   TTGCCGGGCTGACCGGCTGTGCGCCGAAGAGCGGTTTGCTTACCACATCTGGCATCGCG
   GCAAAACGGGACAACCTGAAATAGAGGCGCGTTGGCGCACCTGCACGGGCATATTGTCTG
   GCAAAACATGAAATCGGCACGCATTTTGTGTTTACGTGAGGCTCGACGAAATCAAAAAT
   GCGGGTGCAACGCCCCGCGCTGCTGTATTTCAGACGGCAGTTTAGATTTTACTGATGAT
25  ATTCGGACAGATATATGAAAGCGATGATACTGGCGGCAGGACGCGGCGAGCGTATGCGCC
   CTTTGACCGATACCACTCCGAAGCCGTGCTCGATGTGGCGGGTAAGCCTCTAATCGGTT
   GGCACCTATGCCGTCTGAAGCAGGCGGGGTTTACCGAAATCGTCATCAACCACGCTTGGC
   TGGGTGCGCAGATAGAAGATGCTTTGGGCGACGGCTCGGCTTATGGCGTGAACATCGCCT
   ATTCGCCCCGAACCCGACGGCGGTTTGAAACGGCAGGCGGCATCGCGCAGGCATTGCGCG
30  TGTGGGTGGGCGACCGGTTTTTGGTGGTCAACGGCGACGTGCTGACCGACATCGATTTTA
   CCGCCGCGTTTCAGACGGCATCGTCCCTGCCGGAACATATTTCCGCCCATCTGTGGCTGG
   TGGAAAATCCGCCGCACAACCCGACGGCGATTTTCCCTGCTGCCCGACAGCAGCGTGC
   GGCCGGAAGTAAATGGCGGCAACGATTGACATTACGCGGCGTGGGTATTTACCGTCCTG
   AAATGTTTGACGGAATCGAAGCGGGCAGTGTGGCGAAACTCGCGCCCGTATTGCGTGGCG
35  AAATGCGGCAAAACCGCGTGAGCGGTGAGAAGCATACGGGCTTGTGGCTGGATGTCGGCA
   CGGTATGCCGTCTGAAAGAGGCTCAAGCCCTTGCAAGGGCTTGAAGTAAAAACCCGGTT
   TCAGACGGTATGGCGGATTCCGTTTAAAGTTTCAACGCCAGCACCAACACGCCCGCCGTT
   ACCAGCCCCAAGCCTATCCATTCTGCGTGTTCGGGCGTTCTGTCAGAAAACACCGCC
   ATCAGCGCGACCAAGACCAGGCTGAATTTGTCGATGGGGGCGACTTGCAGGGCGTTGCC
40

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 581>:

GNMHI03TRB gnm_581

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45  CCCACAGGAAAAACGGTCAATGCTTTCAGCGGGATTTTTTTGGGGAAATTCGTCATGTCG
   CTGTGCGGATAAGGTTTTTTATTTCTGCTAAATACTGCGCCGCCTCCAACAATCCTTTCTT
   CTCCCTCCTCCGGCTGGTGCGCCTTTGTGAATATGCTGTCTGAACTCGGGGACTCAGAC
   GGCATTTTGTGTTGCCGCCATCAGTCGGCAACTGTTTTTTCATCCTCTCTCGGCGTTCTT
   GGGACTCAACAGATAAAGTGGCTGTGCGGGCGTGCCAGCAGCCGCTTCAAACCGATAGGCT
   CTCCCGTATCGGCACAGAATCCATAATCCCTTCATCAATATTGCGGATGGTGCCTGTA
   TTTTACTGAGAAGTTTTCGTTCCCGATCGCGGGTACGGAGTTCCAATGCGTACTCTTCTT
50  CCTGTGTGGCACGGTCGGCAGGATCGGAGGCTGATTCTGTGTTCTTGGAGATGCCCTGTG

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TAGCGGAAGCATTTTCGATGAGTTCGTCTGCATTTTACTAGCAATTCGCGGAAAAAG
CTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 582>:

5 **GNMHL46TF gnm_582**

AAAGCTGGCTTGCCCGACACTCAGACGGTCTCCCCGCCGGCATTTCACGCCGCAACCT
ACGGGCGCAAAAGCCCGAATCAACGCCAAAATAACCGCCAGCGTAACCCGCGCCGGCGTA
TTGGC

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 583>:

GNMHN01TF gnm_583

CAAAATACCCTTATAATGAGCTTTATGTAGCCAATCCTAAATCGGGGACGAGTAGTTTG
TGCGAAAACAAAACGGGTAAACAACCGCCGCCTGCCGCCGTATATGCTGGCGCACGGAGT
CGGCGTGACGCTGTCCCATACTTACCGCCCAACCCGGGATGGCAATTTTCGGTCGCGCT
15 GGAACATTACCGCCAACGCTACCGCGAACAGGATAnGGCGGAATACAATAACGGCAGGCA
AGACGGGTTTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 584>:

gnm_584

20 TAAATTTGTTGTGTCCGATCCGGTTATTGTTTGTCTGACTTGTATTTTCCGTGAGT
CTCGCCCGTAAGGCGGAAGTGGCGGGCAATGCGTGGCGGAATGTGGGTAAAGGCGGCATT
TTGATTTGTCGGAATGCTTGAGAACCCCTCTCTTAAAACACCCTTGGATTCGGATTTC
AGTGCAACACTAGTGTATTAGTGSTTGAACAGATTCAAGAATAAAACACTTGCGGTTTC
GTAGCCAAGTGTCTTTCTTGGTCGTTGGTTCAACTCATCTTGAACCTGCGTATCTCCCG
25 ATCACTGATGTTACGGAATCGGTTTGTGTTGGGGAAGTATTGCCGGATGAGTCCGTGGT
GTTCTCATTCAGCCCTTCTCCCAAGAATGGTAAGGACGACAAAAATAAGTCTCCGCTTT
CAATGCTTTGGTTATTTTGGTGTGTTGGTAGAACTCTTGGCGTTATCCATGGTAATGGT
GTGCACCTGTCTTTATGTGCCTTTAATGCCCTAACAGCTGCCCGGCAGTGTCTTCGGC
TTTGAGGCTATCCAATTTGCAGATGATGGTGTAGCGGGTAACGCGTTCGACCAAGGTCAA
30 TAATGCGCTTTTCTGTCTTTGCCGACAATGGTGTGGCTTCCCAATCGCCGATACGGGA
TTTCTGGTCGACGATAGCGGGTCGGTTTCTATGCCGACACGGTTGGGTACTTTGCCTCT
GGTCCATGTGCTGCCGTAGCGTTTGGGTTAGGGTTTGTGCATATTCTGAGATGTTGCCA
CAACGTGCTGCCGTTGCTTTTGTCTTGGCGAAGGTAGCGGTAAATGGTGCTGTGGTGGAG
CGTGATCTGGTGGTGTGTCACAGGTAGGCGCATACTTGTTCGGGACTGAGTTTGCGGCG
35 GATAAGGGGGTCGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 585>:

GNMHT04TF gnm_585

40 TATTTCCGGCGTGATGGAAATCCAGTCGTCGCCGATGGCATGAACACGCCTTTTCGCCTTAC
GCGATTTGAGCAGGTCTTCGGTGGCGGCAGAGCCGATCAGGACGCGCCCTTTGCCACGG
GCTGTTTGGTTGCCTTGCTGTACACGGTTACGGTGTCCATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 586>:

GNMHV42F gnm_586

5 GCCATTTTGTGGCATTGTTTTGCGTATACCGTGCAAGATAGCCATAGGGGATAACCATTT
TGGTGCCTGAAAATCAAATGTAACCGTATGTTCAAATCCTGTCATTGGCTCGGGATTGT
TGAAACTGGTTTGTTCAATTAAGGGTCACATGAGGGCATAGTTAAAACACTCCCCATTAA
CCAAATTAAGTTGATAAATGGGAATAGCCTATGGGCCCTAATTTCAAGCCTAGGAAT
TAGGTAAAGGATATATTCCTGGGAGATACCAACTCCTTAGGTAAAAATAATTTACCAACC
10 TTTGGCACCTAGGGATAAAATCCCATACCTAACTAAACGGGGGGAAATATATTTATCCC
AGGTTGGAGGGGAACCTTTTCCCCGGTTCGGCAGGATAGGTACGGGGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 587>:

GNMHY50TR gnm_587

15 CTGCCGAAGCCGTCGCCCTGAACCGCCTGACACACGGCGCGCTGGACGTAACCGTCGGCC
CCTTGGTCAACCTTTGGGGATTGCGCCCCGACAAATCCGTTACCCGTGAACCGTCGCCGG
AAACAGGAATTGGTCAATAGTCACTTGCGCGCCGTTGGCGAAGTCACCGAATTGAGCTTC
CCAAATGGTCACTTTGTACGTGCGGAGCAAGCAAAGCCGTAAGTGAACGCCATCACGGC
TTCTTCGTTCAAATGGAGTCGATAACCAGGAAGTTCGCCATGCCTTCGCCCATATGGCG
20 CAGAGGAACATAAGTATCGTCGTCCCAATTTTCGCGGTTTGTATCGTGCAATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 588>:

GNMHY77TR gnm_588

25 CAATGCATTGGGCGGCGGTGTGAATTACCAAACGCTGCAAGGCCGTGATTTGCTGTTGGA
CGACAGGCAATTCGGCGTGATGATGAAAAACGGTTACAGCACGCGTAACCGTGAATGGAC
AAATACTCTCGGTTTCGACATAAACATTCAATAATAAAACAAGATCACAATAAAAAA
ATAATGAAAATATGAAGGATAATAGGAGGGTTAAGTTATTTAATGGGACTTGTCTCTAT
GAATCATAAGACACCAAATAATCCATAGTACGTTTAGCAnATAAAACTACCGATGCCTA
ACCTCTTTTTCTCAGAACCTATTATCATTAGAATTCTAAGTGGAAAAATAGAATTAAAAA
ATTTTTTTCTTCGCTCTGTCGTTAATGTATCCTTAGTTTTCCCTAAAAAAATATAAACA
30 TATATATACTGCACAATATTGGTAATAAATAAATAAAAGCGAnAGGTAATTAAATTGAT
AATTGTAAATTATATAATAAACAACATACGAAGAAAAAATATTATAGATGATTGCTATA
CGAATAAAAAAATATCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 589>:

35 **GNMHY94TR gnm_589**

GCGTGTGGGACGGCAAAGCCTACGACGACAACAGCAGTTCCGCGACCGGCGGCAGGGTTC
AAAACATTTACGGCGCCGGCAGGCTGCTACGTTTTTCAGCTACGGTTTCTTTTGACGCAA
AGGTTTGATTGATTGGAAGAAAGGTCTCCCGATTGCCGACGATCGTTTGTAGCGGCGT
GGCCGGTGCATTATCGGTGAGCTTGGTTTCCAAAGATATTCTGCTGGCGGTCGTGCCGGT
40 TTTGTTGATATTTGTGCGACTGTATTTGTGTTTTCGCCCAAGCTCGACGGCAGTAAGGA
AGGCAAAGCCAGAATGTCTTTTTTCTGTTTCGGGCTGACGGTCGCACCGCTTTTGGGTTT
TTACGACGGTGTGTTCCGACCGGGTGTGCGCTCGTTTTTCTGATTGCCTTTA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 590>:

GNMIA39TR gnm_590

5 TACCTGCGCGCGTTTTTCGACGGCGGAAGGCAATGTGCGCGGCGGCGAGGTCATCGGTTTT
 GTCGGTTCGACCGGGCGTTCGACCGGGCCGACCTGCATTACGAGGCGCGCATCAACGGG
 CAGCCCCGTCAATCCTGTTTCGGTTCGATTGCCGACACCGGAATTGACGCGGCGGACAAG
 GCGGCGTTTGGCGCGCAGAAACAGAAGGCGGACGCGCTGCTTGC GCGCTTGC GCGGCATA
 CCGGTTACCGTGTGCAATCGGATTGAAGTTGAACCGGCGACGAAAACAATGCCGTCTG
 10 ACGACGTGTATGGCATAGCTGACACGCTGAGCCTAAGTGATACCGATAACCGAGATTTTCA
 TTTACATCTTTATAGGCGAGATCCACAGATTGGATACCCAAATTTTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 591>:

GNMIA50TF gnm_591

15 CCGCAGGTTCTGGCAAAAACCGAAAACTTTCCAAGGCGGGCTCGTTGGGCAAATCGGAA
 ATGGAACGGTATCAAAATTGGGCATACCGCCGCGAGCTGGCGGATGCTGCCGATGCCGCC
 GCTTAGAAAACCTGCCTGAAGCGGATTCCCGACAGCCTCAAAAACGGGGAATTGAGCGTA
 TCGGATGCCGAAAAGCACGAACGCTTGGGACTGAATGCCGACGCGGCCAAATGGGTCAA
 CAGCATTAT

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 592>:

GNMIB26TR gnm_592

CTCGGTACCTTCGTAATATTATGAGCTATGAATTGACCTCGGTACCCTGTGCACTTTCA
 AAGTATACAACCAATAAATTAATAATAAGGCACCAATACAATAAAACAACGCCGTAAGC
 ATGCTCATAGAACCTTGGTTCGTCAAGTGAACAGCTTTGCAATACCCGAAGGAATACCT
 25 GAAGCAATACCTGCCGTAATGATTAAAGAAATACCGTTCCCGATACCCCTTTCAGTAATT
 TGCTCCCCAAGCCACATAAGAAACATGGTTCGCTTACCAAGAAACTACCGTGGAAACA
 TGAACTCAAATGAACTTGTTACAACAATTCCTTGCTGAAATACGAAAGATGCAACACCT
 AGACTTTGAAGAATTGCTAACAAAACAGTACCATACCTAGTATATTTTCGTAATTACCTTT
 CTACCAGCCTTCCCTTCTTTATTTAAAGCCTTCAATGATGGCAAAATTTTCAGAAGCGAGC
 30 TGTACAATAATAGAAGCTGAAATATATGGCATAATTCCCTATTGCAAATATACTAAAGCGC
 TCTAACGACCCACCGGAAAACATATTCAATATTCCCAGGATGCCGTTTCCAGCGCTTTCG
 TATAATTTAGCTAAAGCAACAGCATCAACTCCAGGTACGGGTATATGGGCACCAATTCTGA
 AAAACAATC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 593>:

GNMIE10TR gnm_593

AAAAAGTGGTTTCAGACTAAGAATGACGCAATCGGCATTTAGGCCGTCTGAAATCAGAAG
 TACCGTTTCCCAATATCGAAAATCCGCCATGCGGCTAAAAATACTTCTTCATGGAGCAG
 AAATGACTTTGTTGAGCTTATTTAATCCGTTGCAAACGCGGCATGGAACAAGAGTTG
 40 ATGCCATTAAATCGGTATTGCCTCTCCCGATACCATCCGCTCATGGTCTTATGGCGAAG
 TCAAAAGACCTGAATCCATCAACTACCGTACGTTCAAACCTGAGCGTGACAGTTTGATCT
 GTGCCAAAATCTTTGGCCCGGTCAAAGACT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 594>:

GNMIF19TF gnm_594

5 ACGGCTTGTTTCATGGTTCTGCCTTTCAATGATTGTTTTGAAAGCCTGATTTTGACACCAT
 AACTTCATGCGCTCAATTCTTAAACAGAACCGCCCCGATTAAACGGGTACGGAAACGCC
 GAGATAACAATAAGAATCCATCATTTCAAACCTTTTTCAGCAGGGACACATAGTAAACG
 GACGCGAGGATGCCGAATACTATCCAGCCTGTTTCAAGACCGCTTGCACGTTGTCCTTC
 GGACTGCATTCCGCCAATAAAAGCCTTAGCGGCTGACCGTCCGACATCTCCACAGGCTG
 10 CCGTTATATTCCGGCCTGACAATCTGTCCGTTTTCTTTGATTCTTGGTGACTACCAAGCT
 GAAATACAGGTTTTTCAGCCTGGTGCTTCTCAAGACATTTATTTCCGACTTGGTACAAACAT
 GCCGTCTTACTTCACCACTCTCTTAACGATGGGAACACAAAAAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 595>:

GNMIF67TR gnm_595

15 AACTTGATACAAAACCTACAATATTGTCAATATCGGCAATTCCCCCATCAAATCCGCC
 AAATCAAAAATATAAAAAGGGATGTCCTCGATGGGCATATCGCGTATTACTTGTTCAATC
 CATAACTTGAATTCATTTAAATCAATAGACTGAGAGAATAAGCATTTAATTGCAAATCCT
 AAATCATCACTATCCTCTTTTATGATTTTCCACATAATTATCTTCCTTTGCCGTCAAACG
 CTCCTTTAGTTACCCGCTTATATCAAAAATACCGTCTGAAAGACGAATATCGTTTCAGA
 20 CGGCATTTTGACTGTTTAAAGCGGAGGAAGTTCTACAAACGGCAAGAAATGCTGAAATTT
 CTGAAACATTTCAAGATGTATCTCTAACGCTTTTACTGCTTTTCTTTTGAATACGCAG
 ATCATACACATCTATCCCCCTTAAAAACGCAATGTCGGTCAAGGTATTTTTTTTCGATT
 TGATAGTCTGCACATTGAAACAGAACCTACAGTATTGTCAATATCGGTAATCCCCCATC
 AAAATCCGCCAAATC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 596>:

GNMIG49TR gnm_596

GGTCTTCGCCCTGGTTAACCTCATTAAAGAGTCTCnCAAAATGCTCCGGGCCTACCTAGTC
 AATCTAGTCACTCTCCGAGCCTCCGCGCCTGCCAACCGTCGTGCAATCAGCAATACAAAT
 30 ACTAAGCCCTCCTGGGCTGCTATCATTCTAGCATTCAAACTCGCTGCTTTCAGGGGTACA
 TCCTTGTTAAAGGAGGTTATTAGTGTCAAGTTCAAATGGGTGTCCTCGTCAGCGGGGCC
 CTCCTCCGAAACAACCTGGGCCGTAAACTTAAGGATTCAAGCCCTGGCCTATGGGTTCTTC
 ATCAAAGTCAGGAGTGCCGTCAAATGAGTACCTGGGCTACTCT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 597>:

gnm_597

CTACTAACCACAATCCCATCCTTCCGTCTATTGGGGGTTCTATTCCAGGGTTATCTTCGA
 TTTCTCAGCGTAACCGCGCTTTAGCCAGACGTGGTCCGAAACGACCAGACCAAGCGGCTC
 CTCGGAAGTCGCTTCTCTCCCTCGCTTACGCGGGCCAAGCGTCCTAAACGGCCAGGGCA
 40 CGGCCGTGGGCGACCGTGTAACACTCCTACGGCTTAGCTGGGCGTCGTTATCGGCGACC
 AACTCCTAACTACCTGCGTCAGTAAAGTTGCAGGCGGCTTTAGTATCTTCTGCATAGTCG
 CTTTTAACCTAATAAGATATCTCTTCCGTACCCGCCTCATCGTCAcATCCTGGGCCCGGG
 CAATGCTGTCTCTGAACGCACTCTCGTCTATAAAAGTACATCCTTGGTCCTAGTCCGCGG

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TAATATGGTCAGCCGTACTTTGGGTAGATGGGGTATCATAGTCTTTCCGGGCGGGCTTCT
 CTTCCAACCTAGAGGGGTATAACGCCTCATCATCTAAGTACCGGAAGTCTACGGCTAC
 GGGCATCTCTCTACAACCGCTGCAGCATCCGGCTTCTGTTCTATAGAGTAAATGGTAG
 5 GGTTCGTTAGCGGTACCTTCCCTGGCACCCACAGCTTCTTCCGCGTCAACCGAAGCTTGGG
 CTTTATTAAAGATTATACCTCTCCTGGTGGGCGTCTGCTATTCAAAGACTGTACGGTCAT
 TAAAGACCCCTGGTTCTCTGCTTGGGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 598>:

GNMIG51TR gnm_598

10 TCCTGTCCTATCCGTACCGGCACTTGCTTCTTTAACCTCTCCGAGTCAAACACTCCTGGG
 CTTTCATCCGCAGCGGCTTCGGCAGGGGTTTCGACGGCTGCTGCTTCGGCATCTCCTAG
 GCATCCATCCACACTTGATTTCGTTCTTCAGGGCTCTCCTCCTAGGTACCTGCTTCCGAA
 GCGGGGCTCTCCTCCTCCCTACAAACCCTGGTAAGCTCTTTAACGTCCCAACCCACCTCC
 GAAGTTGCTTCTTCACTCCGCTAGGGCTTAGAGGCTTCTTCAACCTCGGCCTCAGCTTTA
 15 AAGTCTCGGAAGTTCTTTCAAATCTCTTCTTTCGTAACCTACCAGGTTACAGTCCGTCG
 GGGCAAACCTCTCGGGGTACCCAAAAGCTCGGTAAATTTAAACTTGCTTTCTTCCCTAAGA
 TCCTAGTCTTCTGGGCTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 599>:

GNMIG53TR gnm_599

AAGCACGGGGCTTGCCGGTTAAACGGTGTAAAGTTAGGAAGAGCCGGGGCGTCGGTCTT
 AAAAGCGCGCTGCGCAGGCAGATCAAAATCAACGGGTACTCAACTGAAAAGCCTGAAAGG
 TCTCTATAGTGAAGATAGTAGACTGATCAGAATAAGTTCGAGAAAAAACTGCGTACCGGG
 TATGGCGGTATCCAGAAGACCAAGAAACGACTCCGGGCACGAGGTCCGATGCGAATTTCG
 25 AGAAATTGGATTAGGGTCTGGTAAACATTCAAGATCCTCATGGGATTCTTACTATTCTC
 ATTCTCGGGCTTGGGCTCGGCGTCTTAAAGAATGGGTAGTGTGCTGGTGTAGTCTTAGT
 AAATAGGGTGAAAGCGCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 600>:

30 gnm_600

TCATTGCTACCTAGCTAACTGGCCTATGCCTTCGTGCGGGATAATCGTCGCATGCCcAAA
 ATTTGCCTCGGATTTAATGGAAGTCTTGCTACTATAGTTTTTGGGTCTTACTGCCTCGA
 AGACTCAACACCTTTCTATTCACTCTTTGGTTTAAACGGCTCTACTTGCAAGCCTCAAG
 CCTCTTGCACTCCGAGGGGTGTTGGATCTAGTGCCTCCGAGGGTATATTCTAGAGCCG
 35 CTATGTGTACGATAAGTGCTGTGCAGTTCTAGACGGAACCTACTTTTCATATTTCTTAA
 TATTTCTGCATCTCTTTGCATCCCTGGCGTGTGTTTCCTAGTTCTGGATACATAACTGC
 GCATTCGTGTTCCCACTGCTAGCGGTACACCGGGTATTCGTAGTATTCAAATCTCTCA
 CATCAAACCCTTGTGCGAGATCTTGAGGGGGAGACCGAAGCGTAGCAGAAGAAGCCGGG
 TGGACATCGTACCGCTATGGGGTCCCAAAGCGCTCTCCAATTTTGAGGGCGGGAGGGG
 40 GTGAAAGATAGGTAAaGAGCGAGTTCTGTAGCACATAAGAATTTGcAGAAAGCTgGTAAG
 AAGAGGCAAAAACCAACACGAGCAGAGGTAATAGGTTTCGCGTCTTTGGAGGTTTGGGG
 GGCTCCTAGGGGCTTGGTTGCGGGGGCTGTATTTACAAATCTGCCGCAAACGAAAACAGC
 TGCAACAGTACGGCCCGCTATCACGCCGGATAGTCAATGCCAGTGTAACTCCGAACA
 GTTGGCACACGGGGTCTTTTCAACAATCGGGGTTAAGCAGCACTATGGGGAAACGGTGCT
 45 GAGCGCTCTCCGAGGAGTTTCGAGGCATCTTCCCTAACACTAATGTCCGTCTTCTAGAT
 ATGAGGTGTACAAGCATGGCCGGCACGATGTATTACGTATACAAAACCTAGTGGATCCAGC

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CTAGCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 601>:

GNMIG55TR gnm_601

5 TCGTTACTAACTTGGTCGTCGCTTACTCCTCTACGGGGGTTACTCAA~~A~~AAGTTAAAGCTA
CTCTCTATAGCTTCTGCGGCGTCCCTACTACCGGGTCCAGATCGTTCTTAAAGTCTTCT
CGATTACGTACAGGGTCTTCCCTACAGCCCTCCGAGGTTTGCTTCTTTAGGGCGAATTCCG
GTGCTTTTCATATTAGCATCAATAACCTCTACGGCGCCTGCAAAGGC~~C~~CCAGGGTCCGCC
CAAATCTCTTTTCGGTCTTTCGTCTCTAGTTCTCATAACCGCAGCTTTCAAGTCAACTCCG
10 GCAGCTATAGGGTTACAGCTAAATTCCTGCGGGGCTTGCTCTAAGCACTCTCTGCGTCC
AATACTTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 602>:

GNMIG56TR gnm_602

15 GGTGCGTTCCATGGTAA~~A~~ACTTCATAGAATCTAGAGGGGTAAATGC~~A~~AGGGGGTTACTC
GGGTGGGAAGATCTGGCCGCGTCCCCCTAGGGGTTTGGGGGGCGTCCGGGTTAGCTCCT
CCAACGTCAAGCTCGGTCTTTGCGAACTGCTCCTCCTGCGAGATTCTCTAATTCCTA
CCCACCGCTGGCCAAACCGAGCAGGGTGCTGGGCCCTGGTCTCGTCTCGGGCGCTTAGTT
AGGTGGGACCGTTGTACAATTGGCCCAATATCTCCACACACTTACA~~A~~ACTGCAGCACGA
20 ACCTAGACGCGGTAGCCCGGTTTGAATCGAACGGAGGGGGCTGTCTTAGGGGCGCTTCT
GGTGCTCCTAACTGTGGTGATCCAGGGGCTGGCCGACCGCCGCTAAGCCTCTGCACCGG
TAACAGCTGCTGTGGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 603>:

GNMIG57TR gnm_603

GCGGCGGCTTCGATAATATTACTCAATTCTTGGTCAGAAGCCGGGGCTTCGAGACCGCG
GCGGCTTCGCTACGGCTACGGCCTGCTTCTTGGGGGCGAGTACCTTCTTCGCTTGCAAA
GCGTCGGATCCAACCACGACCTAAGAGTCCAGCGATTGGGTGCGATCTCCGAAACGTCT
TCAATCCAAACCATCTCCCGTTCGGTAGCCTTGGATTCTAGTTACTACGTTTTACTTCA
30 ATGGCTGCGTTATCTTCATGCTATTCAGCGTTGCACTTCGTCTGTA~~A~~ATCGCCGATCTA
CCGGCGTCGGCTGTAGTTATCCCGAGGGTGCTACTACTACACTTCTTCGCTTCCGGATCA
GCCCCTCCAAAACAGCGGTTCCCTAAGGGCAAGTCCCGGGCGATCCCGCAATCCATCT
GGCTGGTAGACCGCTTCATACCTATTATAGCCTACGAAGTTCTA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 604>:

GNMIG58TR gnm_604

GTCCGATTTCCCTGGGGGGCCGGGGGCTATTGCTCCAGGTCAGGATCGTACCCGAAAGTC
GCTTGGCGCTTAATTAGGGCTCGGCCGAACGGGGGGGGTGGTCCTAGTAAAGATGGTCA
GAAAGGTTCTATTACGAGGGGCTCGGGGGGTGTC~~C~~CGGATCTTCCTCACGGGTC
40 TTAGAAATGCTTTGGTCTTAGTCATCGCGAGTATGGGTATATTTAACGGCTCCCTCAATA
GAGTTAGTATTAGGGGCTGGGTCCGTACCTCTAATAAATTCGCAGTCATCAATATCTACC
GTACGGCCGCTTTCAGCCTCTCCGCAAGTACTCTCCTCCTGATCCAACACGTTATCTTCA
TCCATACATTGAAAAGTATGGTCGTCTGCTTCATTGCGGTCTCCAGGGGCGCTAATCCTGG

TGGTCAGCGACGGTCCTAGTCGTTACTTTCCGGCGCTCTTCTAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 605>:

GNMIG59TR gnm_605

5 GTTAGTTCGGGCTTCAGGGTCCCAAGGGTTAAAAGTGC GGCTTCGGCTCTTACGGGTAAT
GCTAAAGCTCTGCTCATTCGAGTCCGGACTTCCTGCGGGTCTTAAGCTTCGGCAGCTGC
TTCAGAAGGGTCTCTCCCAAGGGGGGAGGCACGGGCTCGAGGCGGTAAATGCTCTTAAT
ACCCGCTCCTCTATCCTGGTCACCGTCCGAGGCTTCTTCGCGTGGTGGTTATCATTCTG
10 GTGAGAGCCCAATCAATACATTCTTCGCGTGGTAAGCGTACAATATCGTTCTCAGAT
ACTTTGGTCATTAAGATGGGGATTTCGCTTCGTCACGCGGTAAATATGGCTACCATGGCG
CTCATTTCGATTCCGTGCAGATACCGTCCTCTAAGTCCGGTGGTGATTCTTCTAGTCCGG
GCTCTTAATACCAAAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 606>:

GNMIG61TR gnm_606

CGGTGGCTAATAGACCACCGACGCCTCCTCCACCGACGTGAAAACGGTCACCCTCATGGT
GGTGGTTCGTTAATCTCGGCTCGTTCATGCTCTTCTTCCTCCTAACGGCGGACTTCTTGGT
GGTCATCAGCAGGGGTCTTAGACTAGGTTCCCCCGCGTCGACACTTACAACGTAGTCTT
20 CACCAACACCTCGGCGGTCTTGGCCGCGAGCTTCCCGGTTCGGCTTCCGGGGCTCCAGGG
GGGCTTGAGTAGCTTCGGCAGCAACCGCCATGGCTTAATCGGCCCGAGCTTCTACAGCAA
CATCTCTAACCCGGGAGTGAGCTTGGCCTCCGCCCAAGTAGCCTATCATACCTGGCCCC
AAGGGGCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 607>:

GNMIG62TR gnm_607

CGAAGGCTTGGGCCGATCAACATAAAACATCGAGGAAGACAATTGAGCCTGCTGATCCTC
GGCATACGGTCAGGAGCTCTTGGAGCGTTCAGCATACTACAGGTTTTCAACGTAAACAAG
GCAGCCAACTTAAAGCGAGACCTGCCTATCGTTCGGGGCCAAGGCCTAGAAACAACAAT
GCAAGAAAGGAACGGTGGGCCAGGCCAAGAAGGGGCGGGGAAAGACGGCTATAGGGCAGG
30 CCAATCTCCACAGGCGCGCGTAAGAAACCGCAGCAGGGTACAAAGCCCTGCAGGGGG
TTTGGAGGTCTAAGGTAAAGATAAACAACAAGCCAGCTTAAAACTGCCAACACAGGG
GAGTCGGCAAACGTCAGCTTAAGTTTCATAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 608>:

GNMIG63TR gnm_608

GTTTTTCGCTCTTGGCTCTTCGAACATTACGCTAACTTG TAGTTTATTCTCTCTGAGGAC
CAAAAAAGCTCAGCGTCAACTTTGCGGTCCATGGTTTGGTTGTATTGTAGGGATTAAT
TCTTCAAAGTTATTCTTAAAGGGTAATTTCTCTCAAAGTTACTGGGTATCTGCGGCGT
TAGTAAATTCCTCCGGCGTTTCAACATGCTCTTGAGGCGTTCTAAGTCTCTATTATAA
40 GATTAAGTGCCCTAAACACTACAGCAGCCAGCGCCAGCAAAGTCGTCAAAAACCTAAAAG
TCTTAAAGTCTCTCCTCTAACTTCCGGGGCGAGCCCTCTCCTCGCCTCTCCTTTGAAATT
TAAACATCGCCACATCCGGGTCTAAGTAGTAACTTCGTAACCCTGGCCCGAGCCAAAT
TGCTCCTATCGGTCCGAGCTGTCAACAACGAGCCTCCAACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 609>:

GNMIG64TR gnm_609

5 TAGGGAAATACGAAAATTCCTTCCGGTGAAAAATCCGGGGCTTGCAGGGGCTTGAAAGCT
TCTTCAGCCTCCTCCTAAGCTCGGTTCTTTGGTCTCTCTTAAGTTCTTGCTTCTCTTG
TTATTAGTATCTCTATCATCCCGGTCCGGTTTCAACTCTCTAATATCATATCTTTGGGCT
TGGTCACGGTGGGGGTATGGTTCTTAATATCGTGGGTCAACTGGTTGCTTAGGCTGCAT
TGGGGGCCAGCTCTATCGGAAGTAGTCGGGCTCCAGATCCTGCTTAAGTCTCTAAATCC
10 GCCTCACCCTGGCCGGTACTCGGGCTACGCTTCTTAAATGGCTACTCTCCAAAGAAGCT
TCGTCTTCCGCGGCGCGGGCGTTAGATATAAAAGAGCCTTCTGCCTGGTCTTCTTCAGCA
CTTACTTCTCGGCCGGTACTGCGGTTAATATAGACTCCGTCTTCATGGGCCTCTCTACA
AAGTTATCTTTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 610>:

15 **GNMIG65TR gnm_610**

GTCCATCCCAAAAGGTGGTCTTGTCTTTCTTACTAGTAGAGTCCGTACATTTCGAGGGCA
GCCTGGTTCGACCTAGAATTGAGCTTGGCCTGCTTCCATCAATATCTCTGTCAGCGTCCCA
GCAGCTCTTTGGGTACTTTCAAAAACAGCTTCAGAGGCCTCCTCCGCCGCGCTCCTAGTA
GATCTATAGACCGCGGCTCTGCAACGGCTCTCATCGCTTCCGTACTAATAAGGTCTTTA
20 TAGTCTTCAGCGTGGGCCGCTGCTTCTGCCAACACTTCTACCTAATCTTTAGTTCGTTCC
TCCGAAGCTGGGTGCTTTTCACTAAATTCCTAGTTCTTACTCTTGCTGTTCTTCTAGTCA
TCTATACCGATCATATCTCTTTAGATGGTGCACGTGCTGGCTCTCGTTAAGCGGGTCCTC
CTCTCGAAGGGTAAGT

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 611>:

GNMIG66TR gnm_611

AAGTTAAAGTGGAATAATTGGCCGGTGCTTAAAAGAGTTAATACGGGAAGTTCTAATC
TATCCATATTCGTTCTTGTAGTAAATACTCCACTGTTCCAAGCCAACTTACATCGGTTG
TACCGGTTCTTATATTTTGGGTATCTACAGAGCTTAAGCTTGTGGTAGCCCAACCACTCC
30 CTAAAATTAGTGGTTCCTACTCATGGGGAAGCCGTCCGAAAATTGGCGTTCTTCTCGCCT
GCATTACTAAAACATTATGGCGCCTCCTCCGGTGGTTAATATGGGTAATAAATGCGGCC
TCCTGGCCATAGGTAGATGGGTTCTACCAGCAAGTACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 612>:

35 **GNMIG67TR gnm_612**

TTCATACGCAGATTTCGCGGTCTTAAATGTGCGGGTCTACTCGCCAAAGCGGTCTGCCAG
GCTAATACCTGGGACAACCCAGATACTTGATCGGTAACGATTCTTTAAGCTACCC
CTAGGCTTGCTGGGCGGAATCTTGCTAGTCATCTAACTCCGGGGCAAATTTACGGCTCTC
CTATCCAGCCTCCTAATCGAGTTATTTCCCTTGCTATTAAGTATGATGATAGTAGAGGCA
40 CATAGTCGCGTAGTTGGGCTGGGGAATACGAGTGTAAAAGAAAAATCAGATGGGGGCGGG
TGGGGGAGGGGCAAGCATGCTCGGGGCAGCCGGGGAACAAAACCTTCGTGCAACGTTA
GAGTGCTTCAGGTAGGTCAAGTAAAGCGGGTACATCCTTGTAAGTCGGTTCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 613>:

gnm_613

5 AATGTAAAAAATTCCAGGTTTCTGCAAAATACCAAGTTCCACGTGTACCCGGCACAAAAA
TTCGGGGGTTTTCAGAACGGGTTTCGATTACATTGACAGGTTTCTTGCTCTCCCAAGCA
TCAGAGGGTACGGGGCGCGGGGCAGGGGGGCGGGGGCTCCCAAGCATCAGAAAGCATC
AGAGAACGAGGGGGAGGGGAAGTTCTTAGAGGAGACGCCAGGAATAAAAATTACGATCCT
CGGCTTGTCTTGACTGTAAACACAATCAGGTGTGAACCGCTGCAACTATTAACGCAAGT
10 CCGGTTGCATGAGGGCTATGCGTGCTCCTGGTCTGCTTGGCGTTGCAGGGGGCGGAAGTT
ATGAGAATCTATTTCCCTTAAATACTAGAAACCTATCCCTACTTTCAGGGCCAGGCATTGA
GGGTTTTCATATTTGTCTTCTACTGTGCGGTCTTAACCTAACAGATCTTGGCCGATTGG
GCTTGCTCTCGTCGAACTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 614>:

gnm_614

15 AAAATGGGCAGTGTGGGCTTCGGGATTATCAGCCTAGTCGTGGGGAAGGTCCTACGATTG
GCCAAATCCTTGCGCGCTGCAGTCGAGGGCAAAACCGCTACTACTAGGGTCCTACCCCG
TACCGTCGGCATCCTCATCATGGTCAGCGTCGCCCTGGGGGTAAGGGCATCTAAGCTCAC
CTCCTTCAGCTCCTTCAAATTCGGAAGTCTGATGGGAAGCTGTAGCGAGAGATGTTAACT
20 GCGCAAATCAAAGGGTAAGATTGCGAGGCGAGGTGCAAAGAAACGGATAGGTTATGAGGA
TAGTGAATGATGGCTTCTGGAGGGCAGAGACAGCAAGGGGATGCGGGCTATACAGGGTTA
AAATGGGGATTAGTAAGAGGGCAAGGGAAAAGGGGAAGCAGCAGGGGCAGCAGGCTTAAT
TGCTGGCGCTCGAACGACTAAAGAGTTAAGAGGGGTAGGATTGGGGGCGTAAAGAACGGG
CACGGGAACATGGCTGCGAGAACATACAGAACTCGCCAGCGGGGGCATGGAAGAAGAGG
25 GTGCCCCAGAATGGGCTCGGGGTTGACGGCGTGTTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 615>:

GNMIG70TR gnm_615

30 GTCCGATTTTCCCCAAAACGACGGCCTCAGGGTCTACCTGGTCTTAACGTGGGCCTCA
CGAGTAGTCTCTTTTGGCGCTTCACTACCTGGTCAGCAGCGTCTCCTCTCCTAGACGGG
TCAGTACCTCCGTTAGACTCCTGGTGATGGTCGTACAGATCTGGCTCATCGTTTCAGCA
CCAGCCTGGCCCTAAGGGTCGTGCGGGTCTTGCCTGCAATAAAGTTAGTCTTATTTAAG
TCCTACCGCGTCGCTTCGTCTCAGCATTACCAGGGTACATCCTTTTCTTATTAGCGTCA
GCTTCATTATCTTCAATATCTCCTCGGGCCTCCTCCTCATCAACCTCGGCTTTCCATTCC
35 GCAGGGGAGTCATGGCCCCAGCCGGGTTGCGTTTCGACCTCACCCCTCCTAATTCTTGCTC
TCTTCTTCATCCGCAACATGGGCCGGATCTTCTCATCGAGCTCCTCCTAACGATCAGCG
TCGGCTCGGTCTTGGGGCCGCGTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 616>:

GNMIG71TR gnm_616

40 CCTGAAAGATGTAGTAGTCATTTCAGACGCAATTACGATTTCGCACCCAAACCTCAAAACAA
TTTCCCACCCACGCAAATACAATTGCAAAATGCAGCTAGATAAATACGCCCACTCTTT
GACGCCGCGCATGCTCGATTGGGGCGAGAAGCCCGTAATCATGGATAGGTACGACTCACT

-806-

GGAATTCAAGACCCACCTCGACCCAAATTCACGTGGAAGACCCTCAGCACGGCTGCCCCG
CGACATTTCAAATTCACGCAGTGAGTTAGCCTTACCGGCAACCGCTTCGAATACCGATGC
CACCATTCAATTTATCTAGCGGCTAAAAGCTCCCCAGCACTGCGCCAGACCCCGCAAACC
TGAAATAAATGTCCACAGACTGCCGGTGTTCCTAAA

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 617>:

GNMIG73TR gnm_617

GGGCGCTCCAGGTAAAAGCAAATTTCCGGGGGGTCCATAGAGGGGGTGCATTCGAGGAAC
TAGGCTTGAGTTTCTGGGCGCCGAGACGCCAGGAATAAAAAGTACCATAACCTCATCAAC
10 TTCTACATACGATCCTAACCTCACCTAATCTGCGATGCCGGGGCGGAAGTTATGAGAGA
TCCTACCCACCTCCCTGCCGGGCGGGCCTGCCTCCTCAGCGCTCCCGGCGCCTGCTG
CTCTCTTTGCATGCTTAAATGCTTTTAATACTCGGAGCTCCTGGGCGGGAGGATATGCGG
GGGGCTTACGAGGCCGCGGTCCCTCCTAGCAGGTACGCGAGGCCGAGTTTCGTTGTCTG
TAAGTGCAGCAGCGGCCTCCGCGGTCTCCTACTTGCGGGCTTCCCTACATC

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 618>:

GNMIG74TF gnm_618

GGCTTGGGCTGATAGAGGGTGTGCAATGCGCCGAGTGCTGCATAACAGGCTGGAATGCTG
TTGACAATGACGCGGAAACCGTAAATATCCATAACCTCGGCAAAGCGCAGCTTTTTCGCC
20 ATCATTTTCTGATGGATGCCGTACAGGTTTTTTCCCTGCCCTTGATTTTGGCCTCTATA
TTCGCGCCTACCAGCCGCTGGCCGAATGCGCGCAAGACTTTCGCCACAACGTACTGCCGG
TTCTTCCGGCTCTTGATACATCGCTCTTTTAAAGTCTCGTAACGGATGGGATGCAAGTTA
TGGAA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 619>:

GNMIG75TR gnm_619

TCCCTGGGCCTATCGTACCTAGCGCAGGCCCTCCGCTGCAGGGGGTGCAGGCAAACAGAAAA
AATCTCTTAATCTTGCAATTTGGGTTTGGCGTACATCCTAGAGCTTCGTGCAACTGGGGG
CCACTAAATTCTAAGCATTCGTTTTTAGAGGTTCTCTCCTTTTCGTAGCCTACATAGGCT
30 TCTTGGTTCTTGCAATCAACACCAAACTAATCTTGCTGTGAGTTTCTTCGACCTCCTAG
TAGTTGTGGTTCTTCTAATGGTTAAAATAGTCAATAATGTAAAATATGTATCTTCAAAG
TAACTTTGCTCTATATTTCAATGTAGGAGTCTTCGTGAGTATCAAACCTCCTACCCGCTA
ATCGGGTAGTCAAACCTGGTATTTCTTGCTTTCTAAGCACGATCTGTCCTCACAGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 620>:

GNMIG76TR gnm_620

AAACTACTTAATTAGCAAAGTAGTCTGTACCCTCAACCTGATATTACTAACTAAAATGCG
TACTATCTACGTCAGGGCTGCAAACTATGATTCTTCTGATTTTGCGAAAACACCGAGAA
AAGTTCTGGGTATTTGACTTTCTCTTTGATCTCCCTGGGGGGCGTACGGGTCATGGGC
40 TCCACGCGAGGCTTTCTTACGTCTCTTAACCTTGAGGGGCGAGGGGTTAATGTCTTATA
GACTTATTAAATGTACTCCTCGCGGTTAATACTCGCCTTCGTGGCTTCGTGGGTCCTCCA
GGTCCCTCGATTCCCTCTCATTAGTAAGCTACTACCTCCCGTCTAGCATGCTTGGGGTC
ATAATTGGAAGGGTTCGACTTCAACCTCT

-807-

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 621>:

GNMIG78TR gnm_621

5 GTCCGATTCCAAAGGGATTCTATCTTGCTTAGAATCCGCTCCGTCGCGATATTCATCAAC
TTAGCTTTCTATACCACTGCTGTGAGATACTTGAGTTTCGTCTACTCCTCTATGCTTGG
AGGGTTATCCTCACTCGTTACATTTTCGCTTCCAAGAGCAAAGTATCCCTAAGTTGCTTA
CTAGGCAGGGGGTTCACCTCCTACCTAAAAGGATCAGCAAACGGGTAAGTGGAGTACC
CGAAAAATCAAAGTTCTTTTCGTACCCGGGGAATTCTTCTAATCATTTTAATCCTACCT
GCATTCTCGATTAAAGGTCTCTGGGGGTCTGTAACTTGGGCCAAGATCCTATCTGGGAGA
10 TCCTCCGAGGTCATGAGCGTTCTAATCCATCCTCACTCTACCTCAAAGCCTACGGGACAA
TTTCAAATTCAGGATTTGGAGGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 622>:

GNMIG79TR gnm_622

15 TTTCTTGCGTTTGTCGTCGGCTTCTTCTTGCTATTAGTCGTCAACTTTGTAATTGTAATT
GTCCTGATGCCAGATGATGCATTCTTTGGGGTCGTGCTTAATTTAATGATATTCTTATTA
AAACTTCTCGTTCTTACTCTAGTCTTCTATTCGATGTCCTCGAAGTCGTCTGTCTGTC
GTTTTGATGGTATTTTCGTGCGTCAAATTAAATGTGCCAGGCGTAGTCTTACGATTATTT
GTGGGGGTAGCATTTCTATTGATAAAGATACGGGTGTTATTGGTGGTAGGATTAGGTAAC
20 TTTGCATTACTTGTGTTTGTCTACCGGGCCATCGAGATCTTCATAGCTTTCGATCTAGTA
GTCATATTAGGAGTCCTCTAGTTGGCTTGCCCTCCTACGTACTGATTGCGCCTTACATG
CCAAAGATTGTATCTGTCAATCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 623>:

GNMIG80TR gnm_623

GGGTCTTAGTTCGGGGTTATTAACGTGGTCCCAGTCCCTCATTAAAACGGGGCTCCAGCCCT
ACTATCTTTGCTACGATCGTCGGGTAGTCATTATAAAAAGTGGCGTCCGAGCCGTCCCT
ACCTGCGTCAACTCCTCTACAGACTCTACTATTATGGTATACCTCATAGTCTCTCCAGC
TGCATTAATGTCAACGTTAGAAGTCTATTTCATGGCCGGCGTGGTCGACCATAGGCTTCTG
30 GGCATGGCCCTCTCGGTGGTTGTAGTCTCCCGGGCGACTCTGGTCGAAATTATGGCCGCT
CCTAAAGTCGTGCTTACGGTTCTTAAGGTCGTTCTCGTTAAAGTAGTCATTCTGCTTAAT
AAGGTCGTGGGCGTTAGTCATGTCAGTACTCGGGTCTCTATTCTCGTCCAGATGGTTACT
AAGATGGTCTTCGTGCTGGTTCCGGGCATTACAAGTTACATCAGAGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 624>:

GNMIG81TR gnm_624

ATCCACCTCCCTCACTTCTGCCTCAGCCGGGGCCTAAATGTCACTCTCGTCCCTCAGGGT
AGCTCCATCTACTTCGCATGTTCAATTTTCCCCTCTGCCTTCTCTAGGCCGTTTCGCG
AGCTTTAAATTACGGGCCCCGTCTTGAATCCATAAAAATTCTTTTAAACCGGCGTTC
40 CCTTCTCCTGAGCCGGGGGATCTTCGTATCTCGGTGGGTGCGAGCCAGGGCCCCAGCG
ATTAAATACCCGGAGACCTGGGTCTATTACGGGGAGCGGTCTTGACAGGCCGGGCTCGTA
GTCTTTTCATTGATGCTAATCCAGAAATTGGCCGTACGGGCTTCGTCCGCGACACCAATA
CCTCGGCTAGCACCAAGCAACATAGCGGCATTGGCGCTCATCCnCCACATAGTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 625>:

GNMIG83TR gnm_625

5 CCTCCTCTCCTCGGCGGGGCGTACTTACTTTATGGGCGTGAGGCTTAGGAACAAAGGCCA
ACAACACTGGCTTCGTGTGGGCGGGCATTCCACTACGAATCAGAGGAGGATCATTACCT
CCCCCAATCGAGTCGGCTATACCTCTCGAACCAGGCCAACACCTCCACTGGAGTACCTA
GGGCTTAAAGCAACAATAAAATCACTGCCACCCGCTCGGTAAATGTCCCTGCAGGGGGAT
CCGGCTCTTCGATTGCTGCTTCAAATGCAGGCGGGTGGCTCTTCGATGCTATTCAAAAG
10 CTTGGGCAGCGGCCAACACAAGGATATCTAGATGGGCATTACGTCTGTAAATCTCCCCA
TCGGCAGCTCAGGAGTCGGCTTCAATTCGGGTAACTTCCCTAGGCGGATTCAATTGG
CGAGCATCAATTCGGGGGTCGAGGCGTTTCAACCCTAGGTAGGGCACC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 626>:

GNMIG85TR gnm_626

15 CTGGGCAGGTGCAAAAGATCATGCTATCCTCGGCCCACTGCCAGCGGCAATACTTTCAA
TAGACATACGCTTAACATCATTAGGAACTTCAGCTTCTTAAGATTATTTAACTTGCTGC
TAATTAGATCCGTACTACGCTCTTTCGTACGTTCTTAATAAGCTTCATTACTCGAGAACG
TAACTTAAATTTGCAATAGAAATCATCCATACTATAAATCTTTCTCTGGCTTTCTTGG
GGGCGTCTTCATTATAAGATGCCAAATAAGTCCTAATACCCAGATAGATACCTCCGAAA
20 ATGTAACCTTTAAATTACTCACAAAAATCTTAAACAGGCCTCGGCACTCGAGTTAACA
TACTGGCAAATCCTGCGTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 627>:

GNMIG86TR gnm_627

25 AACAGAGAGGGTTACACACATCCTGGCTAAGTATACACCTAGGTCGGTTCGGGATAAGAG
CTCAGCATCGATGATTGCCGTAAGAGGATGACTTAAAGGATTAAAGCTGAAGAAGCTAT
GAGAATTACTGACGGACGAAGAGGTAGGATCGGGTCACAGAGTGGGTGTAGGTGGGCTAC
AAATGAAAGGACTAATTAGAGGGTTAAAGGTGCTGAATCTCCAGCACTCGCTCT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 628>:

GNMIG87TR gnm_628

TCTTCTGGGTCTCCGAGGCCAACCGAAAGGTCAGACCCGCCTGCTTGGGCGTTCTCGAGG
TTCCAAGCCGCCATATGGCCATCCCAACCCGGATTTCGGGTCTCTCCCCTAATTGGCAGAT
TCTTGGTCCCTACTTTCCGTACCCCTCAGGGTCGTAACTTGGGCATATGGCTCCGAAGTA
35 CTGCGGTGGGGGTATGGGGCGGCAGCAGATCTACCTGCGAGCTCGGGGTACTTACTTGG
GCCTCGGGTCTCTATTACGATCTTATCCGTGGGTAAAGAGTCATTGTCAATTAGGGGCT
CTCGCCATAAATTCCTTACCAACCTAAGCAGAATGAATCTTAATATTCTCTTCAATTGC
TTATCTCTCCGTGCACTACTTCGGGGGGAAGCGTGGGGGTACAAGAGGTCGCGGTTACTC
TCTGGGTCCGTCGAGAATCCAGGAAGTTCTCTCCAGACTTTAGGnGCGTTAGAAGTGTAG
40 TCTATCTCGTCAGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 629>:

gnm_629

GGGTCTTCGTCCGTAATATAGGCTTCCGTCCCGGCCGTCCCTCTCAACTACTAAAGTCTCT
 TCAGGGGCTTCTGGGCACGGTCCCTACCGGGTTACGCTCGTAAACGTTATCTCCGAGG
 5 GCAACAACCTTCCTGGTCTTGGTCGCGGTATCGGGGTCAGGGGCCCTGGCATCCAAATCA
 ACGCTGCTTTGGTCATAGCTATCGTCCTAGACTTCAGCGAGGTCCCTCTCACTCCTAATA
 AAAGCCTGGGGGTGCTCCAGCGCTTCGTGCAAACCGGCAAGGGCTCTTCAACACCGGCA
 AAACAGACAAAAATCTCGGGGCTCAATTCGGCCGTACTCTCAGAGGCCTCCTCCGTACAG
 GTTACTGCGAGGTCTCCGGCGACAACCTCCGTACTCTCG

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 630>:

GNMIG90TR gnm_630

TGGGTTTCAGATCTGGCTCTTCGACTGGATCTTGGTCGGCTGCCTAAACTTCTGCGGCAC
 CTCTATCTTTTACGGGGGAGTTAACTTGGGCACTACCGTGGCCCTAGTCATCCGGGGCCG
 CAGCAGTCTCTTCGGCCGTCTCTTCAGATTCCTACACCTCCAATTTCTCTTGGGGGCGAT
 15 CCAAATCATGGGAATTAACTCCCAGTCATAAGAAAGTGCTTGGCCCGGAAACCAGGGC
 CTGCGTCCAAGACCTCGGCGTTATTGGCAGCGTCATACACGGGGCATTTAGCTTCTCTAC
 TCGTACCAAGGCCCATCGCTTCGGCTTCGTCTTCAAAGTCAGCCACCTGTGGTGGGGAA
 CACGCTCTCTAGAGTCCGCTCCGCTGGGTCGTGGGGCGGCTACTC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 631>:

GNMIG91TR gnm_631

TGATCGGATTCTGTACCGCTTGTGAGTACCTCCAAGGCCCTGGCCGTCAATGTGGTAAAA
 AAGATCAGCGTTTCGAGCTCTTGCGGTTATCCATCTCCTCCTACTCGACCGTCTCCTCCTC
 CTTTGGTGGATTAACTTAGGTGTCTTTAATTCCTCCCTACTCGCCTCCCATAAAGTTCTA
 25 GTATTCAATAACCTCAACGTAGGATTCTTAAAGATCTTCATTTCCCTAAGCTTTAATCTA
 ATGGCCAAATTGGCCGGCTTCTCATGGGCCAACTTACTAGTTGCTTCCAGAAAAACATT
 TGCAGCTTAAATGCAGCTACCTAGGCGTCCATCGAGTCGGTAAAGATGATTCTCAATGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 632>:

GNMIG92TR gnm_632

GCTGGTTGCGGATGGTGGGGATTATGCAAATTAAGCGGTATTAGTTACGCTCATACAATG
 AGTACTAGGAAGCATCCGAATCAGCGGCGCGGAGGCTTGCTGGTGTGGCGCCTCCCGG
 GGGAAATAACACAGAATTACTATTGATTTTGAAAACGCGAGTAGGCTAAATAGAAGCAGG
 GGCCATAGAGGAAGATGGTTCGTTGCAGGGGTGCGGTTGACAAAGGGGTCGAGGGGAACA
 35 TAAAAGGTAGGAGAACTAGTGGTAGTGGGCAACAAGAAAGGCAAAAGTACGGGGGTAAAC
 AAACAGTTGTGGGTAAAGGTTACAGATACTGATGGTCAGGGGGGCCAGGGGCATAGTAAAT
 ACTGCAGGTAAAGGCTGCCAACAGAATGATGGCGTACGCGGGTAGTAACTGGGGACACAA
 TGAAGTAACGTACTC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 633>:

GNMIG94TR gnm_633

GCTTCTTTGTAAGTACnATGGTTTTTCGGAACCGGTAGCTTCTTCGGCACTAATACTCGCT

-810-

5 GCGTCCGCTCGGGCCCATCAGACGCTACCGGCACGCTCTTCGGCGAATCCGAGGTCCCTT
CCTTCGAGATCCTCCTAGGGCTCAGAGCCTCCCGGGGGGTGAGCCTGCTGGTAGGCCGGG
GCTGCGAATGTCTCTCCTGGGCTTTTCGGGCTCTCGGGGTATTTAACGAGTTCTTCAACC
GAAGTACCGTCCCCTCCCCTAGGGGTCTGCGCCCTCATGGCGGTCTCTTGC GGCTTGCG
GCGGCTTCAGAAAGGCTTACTGGCGGCACGGGGGTAGAGGGAATCCCAAAAAGGTCTCTC
CCGGCTTCTTCCCGGCACGAGCAACGACGTCCGTTTCATCCGGCTCCGCTCCCGGCAGCG
AGGTCGAAATTCTTCTCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 634>:

10 **GNMIG95TR gnm_634**

TCAACTCCGGACAAAGCTACACGCTCCAGCTCCTAAGTACCCCCACGAGCGCGGGTAGTC
GAGGGTTGGGGGTTGGGGGCCGGCAAATCCGACAAGTACATGGGAGGTCCCACCCGCGA
ATTTGGGTAAAGTACCCTAATATAGACCCCTCCGCTGGGAGCGCGTCGCAAATAGTAGGC
GGTTGGAGTCCGGGCGGGAGTACCTGGTCCATCCCCTCCTCTCTCTCTTTTCAGCGGC
15 TCTTCTCGCTTCCAATCTTCGAGCTTCGTGCAAACCTTGC GTTGGGTACATCCTAGGCTCG
TAGGGTAGTTTGGGGGGCACTACCGTGGTAGAATTCTTCGCAGGCCTAATAGGGCGAGAA
TTGCTGGGGGGTACTGTGGCAACCCTCCTGGTCTATCTTCGTTCTGCTCCTACGACAAC
GGCATTCTCGCGTGGGCGTCCCTCTCTGCTCG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 635>:

GNMIH01TR gnm_635

AACCTCTAGGTACGTCCGACATTAACTCCAGGTCTGCAGGCCGCGCAGTGTGAGGTGTA
GGGCGGCGGTAGGGGCCGAGCGGTGAAGCAAGTGAAGCTACCCCTCCTCCGGGCGTAA
GAGTGGTGCCTGCTAGTAGTAAATTCGTGAGGCCAAAACGCTGCTTTGCTTCTGCTATG
25 GGGGTACATCATTTGGAATTCGGGTGAGGAAAAGACTCTAGGTTATGGGTACATCCTAG
TTGGAGCGGGTTTCATTAAGTTCTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 636>:

GNMIH02TR gnm_636

30 CCTACATCTCACGGCTTCAGGCGGGCCGTCAGCCTCAAACCGGTGGGGGTTAATAACTTC
CGGGGCCGCTTGCTCCTTTGCTGCTGGGTCTTGGTTGCTTCTAATGTAGGATCTTCTGG
GGCATCCTACCTCCTAGGGAGTGGCTGGGCAACCTCGACAAAACCTGCTGCTATAACGGG
TGCTATTATAGCATCTCTAGCTGTGGAAGCCTCCTAAGTCTAGTCTTAGCATGCGGGG
CCGCGATCCAAGTCGGCTTCGTAGTCGTAAATGTCATCATGGACCTAGCTGCTGCAGCTC
35 TTCATTATAAATTGGGGTCTCTACGGGCCCTAAAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 637>:

GNMIH03TR gnm_637

40 TTAAAAACTTTCGCACCTAACTGTAAATTCTAACAAAGCTACCTCTCGCTGGGATTAGGG
TTACTGGACCTCCTAGTCCTCCTATACCTGGTATCTTAAGGCGCAATCTGTTTCAACGTC
TTAGTGGCCCTCGCGTAAAGTTTAAAGTAAATTGCGGGCCAATCCTAAACACGGGCTTT
TCTCTTGACGCGCTTTCGGCACTTGC GTTGGTCATTATTGCGGTAGTCATCCGCTCCTTC
CGAGCTCTGGTATTCGAGGTGGCCTCAACTGCGGCAACATGGTTCTTCTAGGATTGGAG

-811-

AAAAGAAAATAGTTTGTGTAACACTACGTGCAGAAGCGGGCCAGGCTGGCACAGGCAGCACG
AAGCCGCGGAAAGGTAATTGGGAAAGGAAGAATGGAGCCCAAGGGTGGAGAGACACCTA
GGACGGCTTAATAACAGCACTAAAAGAAGCCATACGGA

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 638>:

GNMIH05TR gnm_638

TTTCCGTCGAACGTAGCTTCTTTCTTGCATTGCTCAGCTATTAGAGGCCAAATGCATAC
CTCGAGTCCGGGCCCTAGAGGCACAGGTCCGAGTCATCGCTACTGGGGTCCTGGTAATGG
GATTTCTTGCTTCGGGCTTCGTCTCCGGGGCCGTAATAATCGGCGGGGAAAAACAA
10 TTGCGGGCGGGGTCCGAGCCGAAATCCTGGTCGTCTGCTTCATGGTCGATAATAATTGCT
TGGTGGCCAACAATATCACAGCTCCTCAAGTAAAAGCCAGCGTCTGCTGGGTTCCAAATG
CGGGTCTCTTTGGTCTCTGTAAAGCGGTGGGTAACGAGTTTGGCGTCGTAAATTCCTTGCT
TCGTTAACTTCGTTAGGCGCGAGGCTCCGGTCGTCCCAG

- 15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 639>:

GNMIH06TR gnm_639

GGCAAAGTAGCCGCTCTATTCGCCTGCTTCACAAATGCGGCTACTTCGGTCAGCTTCGTG
CAATCAGGCGTTCGAGCCGGGGATACTTAGGTTACTATCTTCATTCTCGTGGTCACGTT
CCTCGCGTCGATACCAAATTACTCGCGTGTCTTCGTCTGCAGCCTCCTGGTGGTCATA
20 GCATCTCGCCGTCAGCCCTCGGGGGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 640>:

GNMIH07TR gnm_640

TCCGTTTCTGGCGGTAGCAAACTTTATCTGATCCCGGGTGAGGTGTGTTGCTGAACCG
25 GGGGCTTCGACCGTCCAGATCAAGAGTTCATTGATAGGGTAAAGGGATAGTGTGGTTAAG
GGTCTAAATGGCCGCTTAATGTGGGTATCTTTGCGGGCTTCAAAGGCAGCCGTACGTCC
CTCCAGGTCTTGGGAGTGCTCCTAGTCAGAAGTATCTTCCGCTTCAAAGGGCCTCGCTCC
ATCGGGGCGTTCAGATCCAAATTGCTCGACCGGGCCCTGCGGGCGACGTCGTCAGCAGG
GGAGTGGGCCAGCTCCTCCGGGCCTCTCGCGGCTTCGAATGCGTCGACCTACCTGGGGGC
30 ATCCATACCGACGCTAAGATGGTCCCGCCAGTGTGGTCATCAACTCCACATCAGCTTC
AAGCCCCGGGCGTTTCGCTACTAGCTCGGCGGCTCTTAGCCGCAGCGACACCTCGGGCTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 641>:

GNMIH08TR gnm_641

ATCGCACTCCGGGGAGTTAGGATTCTAGTAATTAGGTTAACCAAGGACTACATTCGTACA
35 ATTATAGGAATCCTAGGCACAAGGGGTCCAAGTACCTAAAATCTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 642>:

-812-

GNMIH12TR gnm_642

AGCCAGCCAGGTCGTAGGTTTCTCTACCTCCCAAGTGACCGTGCGTACGCTCCAAATGGA
GTCCAGAAAATCCGGGTGCCACTAGGAGGTCGATGCCAGGTTTATGGGTCGCC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 643>:

GNMIH13TR gnm_643

10 GCTTCGGGATTCTCTTGAGGGACAACCTCCCTCCATAAAATCTTGCTTCTTCGGCTTCCAT
ATACTTGTCTCAAGATATTCTATGTGCGCTTCTTCTCTAGGCAAGGGGCTTCATCTCC
GTAAATGTCGCTCTTGCTCTCTTCAATGCAGCTACGTTCTTCGATTCTAACCTCGCCCTC
TAAGCCTCCTCAGGTGTCTTGCCAAACAGCACTACCGGAACTTAGGGCGCTTCACTTC
ATTAACTCAACGCCGTCAACTTCGTAATGGTAATGTATTTCCATAAAGTCGCAGGCTAC
CTAATCTTCTTCTTCGTCCTCTCTTAGCCTGCTTCTTAAACAACCTCCGCTTAAATCTC
TTTGCTTCTGCTTTGCGGTCGATTGGTTTAGGCTACTTGCAGCAAATTTTCATCGTCATA
AATGGCTTCAACTTTGCAAAATTCGGCAAAGTAACTACTTCTAAAGTTCTCGG

15

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 644>:

GNMIH14TR gnm_644

20 CCGGCTACCAAAACCCGGGCAATTGCTAGTTCTGGTCAGCGTGCGCAGCCGCGGGGTTG
GCAGGGGCGGCGGCTAGGAGGCGGCAGGAGTCGTTTGAGCTGCCGTCCCTACGGTAATA
AGGGCCTAGTCTCTTGCTTTTAAGGAAGTCCGGGGAGCTACAATATCTGCTGCTTCGCCG
GCCAAAAGATAAGTCTCCAGAGCGCCAAAGTCAGTACCTAGTGAGGAGGCTCGCCTGG
TACCTCTAGATCCACACGGCACTAATCTCTGGAACCTCGCCGGGTTTCGGGGCAGCACC
TACCTCCTAAGAGGCGTACTACGAGTCCTAATTGCTGCTGCTGGTTTGGCTGCTGGGAT
GAGGGTTGCTGCCAG

25

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 645>:

GNMIH15TR gnm_645

30 CGCGGCTCTTAATGCTTCCATAGTCGGGCTTACCTCGGCGGGGCGGTATGAACATTAA
ACTTGCTTGCGTAGCGATTCTTCTTCTTCAGGGCCAACCTTGGGTACATCCTAGGCCGT
CAGTACTTACTTCTCTCCTCAGGGCATTCAATTCGTCCCTGCTCCAGACTCTCCTAGAGT
ACCAGCTTCTGCTAATAACCGCCTCCTGGGGTGCTCTGCATCATCCCCGGGGGAAACAA
ATGCTTCATAGGCTTAACTATCGGACCAGGACCAACGGGATGCGGCTCCAGGCTATATAT
GCTAGTCCAAATAGTGGGTCTTCGTCCCATTTGCTTTCTCTGTACGGTCCTAATCCTCCT
TCTTAAAGTCTTCGAATTTAAACGTCCTATAAAAGCTCGGGGAAGCTAAAGATCAT

35

- The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 646>:

GNMIH16TR gnm_646

40 GAGGTAGGTAAATTCCTCTAATATAGGGTAGTATCTTGAGGGCACTTGCGTTGAGATT
CAGCTTCTGGTCCCTAAACGTTCAATATCTCGTAAGATTCTTCGAGGCCTGTACCAGGGT
CCTAAAATTTCTACGCTCCAAGCCCCGAAATCTTCAAAGTAAACGGGTATCTGCGTT
TGTTATCTGCTTCTTCTAAACCTTTCTAATGCCAACTCTAATATACTCTCCCTAGTAAA
GGACCTGATTCTGCCGAATTCTTCCAGAGCTTCAAACCCCGTGCATCAGCTTATTCGCTC

-813-

TGC GTAAATTTGGGGTGCTTCTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 647>:

GNMIH18TR gnm_647

- 5 AAGATCTTCATCTTTCAATAGTTCTCGGGCTCACTCCTACAGCCTCGGCCATAGGTAAAT
TCAAGTACCTCTCCACGCTCCATGCATTGCTTGTATGCTTCAATATAACAAATTGATTCT
TAGTTCTCTTTCTTAGATTGATGTCTACCTCCACC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 648>:

10 **GNMIH23TR gnm_648**

- TGATTGCAAAAATTCTGGCTTTAGGGTTGGCAGGCCAAAAAGTCCCTGGGGTAAGCTCT
CCTTCCGAAAGAGAGTCGAAGCTACCGCTTCTTAACTGGGAGTGCTTTCTCGAGTTTAA
GGCTGCGCTTCATGACACGGGCCTTTCAGAATTAGGGCCTCCAGGCGTTGCAAATAGCGT
TGATAGTACTTTTAACAGAACTGCAGCCTTGCCGGGAAAGGCTTACTGTAAAGTCGGCT
15 CTTAAGATTAGTTTCTGTCTACATAAATGTAGGGTATTCGTCACTTATCGATCCGCG
CCGCGTTCTTCAGACTTACGGGCGTGGCTCAGCGGACTCCCCGGGGCGGTTAGGCGCTAG
CAATCCAGCGCGTAGACCTAAAGACTGCGGGATTGAGGGCAAAACACGAGGGATAGTAC
TTCAGCTTCGTTAAAGGGGTAGATCGCATCGCTTGGTCTTAACTGGTGGTACTCTCTCT
ACA

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 649>:

GNMIH25TR gnm_649

- TACCAGGAGGGTAATAGTACTGGAACCCAGCATAAGCCCATAGAGGGAGGTCCAAACTT
CGCAGGGTCTTGGGTACATCCTGCCCATCCTAAGCATGCATAATTGAAGATACAGACTA
25 ATCTTCAGAGGCATGCGGAGTCCCTCGGGGGCGGCTTCTGGATCCTAGTAGCACCAGATA
CAAAATCTTAAAACTCTCTGCAGTAGCCTTCAATCGAATAAGCTTCTTTGGTAACAAC
TAGAATTAGACGAAATCCCTGCCTAAAAATACATCCAGCTAGATGTCTTATTGAGATAGT
CCAGATTTTCCATAACAACAACATTCGCACTTAGATGCATACGGGGAAATTACTCT

- 30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 650>:

GNMIH26TR gnm_650

- AAGGAGTGGTGGTACTTGCCGGGATGTCAGGAGGTTAAGCACGAAGAAGTCTTCAGGGG
TGTTGGGGGGAAGAGACGAAAAGGTAGCAAAAGAGCCAGGGGTACCAAGAGCGTGGGGAG
TGGTAGAACTTGTCGAGGTACCAGACCTACAGCCTAGGGGGGGAATTTTCGAACGAAC
35 AGTGGGTGTTTAGACGTCGCTGGAAATGATATCTAGTGGGGTCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 651>:

GNMIH27TR gnm_651

TTTCTTCCGGGCTCTCCTCCTGACTAAAGTAGCATTCTCACGCTGGGCCCCAAGCCTCCT

-814-

5 CCTGGCCAGCCCTCGTCCCGGGGTCGAATTGGCTCTCCGTACGCTCCAAATCACGGTTCC
ATTTAAATTGAAACACCAAAAGCCAGGATGTAGAAGGCGACGTGGGTGGGTACATTGGAG
CGTCGTGCAAATCCCAAATTCAGACCATCCCCAAAGAGACGCCAGGAATAAAAAGTACCA
TAACCTCCTCACTTCTACATACGATACAGACGATCCAATTCAGGTATGGCCGCTGGTACT
ATTGGACACAAGTCGGTGTGGGCACTGAACCTCACCTAATCTTCGATGCCGGGGGCGGAA
GTTATGAGAAATGCTTTCTTGCGCACGCCTCCACTACCCAAGTGCGCGCTCCAGGAGCTT
AGAAAATCCGCGTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 652>:

10 **GNMIH28TR gnm_652**

AAATTCTATAGGTAACTTATACAAAGGCTCCGGAAGTAAGTTCTAGTAGGTGTGGTTCC
TACAAACGAGTTCATAGTATTCTTAATAGTATTCTAATACATAATCTTAAACGAAAGGGC
CCGGATAAAAATCCTCAGCACCGGGCTCGCTCTGTCCATGAGATTCCGGATCGGATTGCT
AATATACCTAATGGAGTTCAGAACCTGGGAAATACTGGGCCACTCATATACAGGAATCCT
15 AAGCGCAAGTGCAATTACAAGCTCCTAGGCCGTGGCCCTAAACTGCTAGGAGCCCCCTAA
AGGTAACCCTAACCAAACTTTCGCGTACTTGAAATTAATAGACTAAAGCCTAGGGCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 653>:

GNMIH29TR gnm_653

20 CCCGCGGCGATCTGGGGTTCAACTCGGTACTTATCAACCTCCTGGCCGTCCTAATTTTCG
TTCTCTTCAGAGGACTAATTGCTTTCGCTTGCTTCAATCTGGTTAACCTCGCAACCTTC
GTGACAAAAGGGGCGCCGCTCCTCCTACGGGCCCTCTCCATCGGGGCAATAAAATTCGAT
TCTACCTAGGCCTGGGCTGCTTTTCATAAGCTCTCGGTCTACAGCGATTATTAAGTCCCAT
CCCCTAACTGCCCTACTGGCTACCTCCAGGATCATCTCTGCCCTCGCAAACCTCAAGCTC
25 GCCAAGGGAGGATTCATAGCCGCGTTCTTGATTCTCAGCTTCAGGGCCGCAGGGCTTCGC
TTCTCTCTGCATCAGGCTTCACGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 654>:

GNMIH32TR gnm_654

30 GTCGTGCGAAATCCCTGAATCCTGCTTTACTCCTACGTTACGCGTTCAAAGTACTTGCGT
CCCTACCATCGTCGCTCCAACCTCTAACTGCTCTCCCATCCTTGGGCTGCTTTCAGAT
CTTCCGAGTTCATCCTGTCAGCACCGGGGCTGCTGCAAGTGCCCTCCTCCAACGGGGCTGG
CGTACTAAGTGCTTCTGCAGCCTGGTCATCTGCGGGGCTACGGCTACTACTCGCAAGGT
CCCTCCTAGTACGGTAAAAAGTATCCCTCCGAGGGCAGGGGCTCTCTACCTCACATAC
35 CCTCCGTCTTACGATCTCCTCCGCCGTCGCCTCTAGCCCTGCTTTTCGAACCTCAACGT
CAACGGGCTTGCTCCTGCTCCTGCTGTTCTGAGTACCTTCTGGGTAGATACTAGGGTAGA
CTCGGCTAAAATCGAGGTGGTTCAATACGGGGTTCCGGTCATTTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 655>:

40 **GNMIH35TR gnm_655**

GATTTAGCTCTTCGTTTTCTCTGTACCAAAGGTCACGAGTAATGCCGTCAAGGGTACTCT
ATCCTCCAGGTCTAGGGCAACGCTAATGGGTTTGAATACAAAACCTTACGAGCTCCGAC
TAGATCCTTGGGTGCTAACAAACAGGCTTAGCACTTATATCTAATGCATTTAACCTCAA

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TCAGATTATAGTTAAGATTGCGTTTCTTATGCTATTTCGTATTCAAAGTCTTAAATACTGG
AATTCTTATAAACTATTAGTACTTCTCAAAGTACATCCTATTCTATTTAACCTACTAA
GATACTCTTCAAAAACTTACTCCTAACTTACATGAGTAAATACTCGAACTCATAATTT
GAGAACTGTCAGGTCTACTGCAGGTACTATAGTCATTTTTGG

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 656>:

gnm_656

10 TAGGGCGAGTTCTCGGGAGTCCAGGGTGCGGGGGGTATGAGAAGACTTCCGGGCTTCGGC
TACCTCCGGGGAGCCCAAACCTCCAGCAGCCGATCCTCGGGCAGAAGTCCTAGTACTCCC
CTCACTCCGGGTAAAGATCCTCGCAACCTGGGCCAATGGGGCTCTCTCTAACAGCGTCAA
ATCTATTGGCGCCGAGTCAAACCGCTCCACAGCCTCTCTCTGGTCCAAATCCTGGAGCTC
ACACATCACCGAGAGCTTGGCCTCCATGGTCGCTAGTTCAGTCCTAAGAGTCCCTCGCT
AGGCTTACTCCGATCGGGAAAATCCAGCCAGCTGCCGTCTTTTGGGGTCAGCTCCATC
TGGCTTGTGCGTCTCTATCCTGGTCTCATAAGTGCTGCATCTCGCTCCTCCAGCGCCGG
15 GGCAACCAAACtCCTCCTGCCGCTGCAGCCGCTCTCAAATCTTCTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 657>:

GNMIH38TR gnm_657

20 ATTTCTGCGAATATTCGTACTGTTCTTAAATCTTGGAGTCCCTCCATCTGGCTTCAGTGC
TAGTAAAAGATCTATGATTGCTTGGATTCGGGTCTCATAAGTAATCTCGGAGTCAATGC
TAGATCTCCTACCCCGCAAAATCTTGCCTCAACGCGTCTCCAAAGTTGTAAAATTTGG
AAAGTCTCTCTTCAACAAATTGGCCCTCCTCAGGGCCGTCCTCGCCACAGGATTCGTTTT
CTTGAGGGTCATCAGCTTTAATCTTACCTTATTAACAGCTTCTCTCGTGCCTCCCGGGC
AATCGAGGCTCTTGCTGTAATCAATTTATTCTTCTTCTAAGTCTTGATCCCTGCCATAAT
25 CTTGTCCAACCTATCGGGCGTCGGATCATGGAACCCCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 658>:

GNMIH42TR gnm_658

30 TGCTTGGGCAGGGCTGTTCTTATGGCCCTGGGCTTCGTAAAACTCGCGCCCGCGCGTCCG
TCAGGGCGGGCGTTAAGGTCGTAAGTACTTCCGTAAAAGCCCTAAGTACGGCGGGCATCT
GGTTCATGGCTCGGGTAGCAATTGAAGCTACATCCGGGGGTGTCTACGTTCTAGAGTTA
TTACGGCCGGCTCCTCCGGAATTAGACTGGTTAATATGGTGGTTATGGTCCGCCCTCAGC
GCCGACCCTAGCCGGGCTGAATTGGTGGGTGCACGTAGTAGTGCGCTCAA

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 659>:

gum_659

40 AAAAATGCGGTAATGGTGGTGGTGCCATGGTGGCCGTGCTGGTCATTAATTCGTTGCATC
ACAAGGGGATGGATATTAATAATGCCATTCTGATCAATTGGGCAGTAATAATCGATTACA
TTATGACAAAATGAGAGCGCCGTAGGTATTACTCGGCGGTGGTGTGACGCCCTAGTCCG
GGCTGCAGCGCCCCGGAGGTTGGTTGCATTAAATATACCAACGCCAACGCTTCGTGCAA
CATTTCAGGGTTAAAAGTTAATGCATTTTGGTCTAAAACTAGGCCCTAAAGATCGTGGT
TGCATCCGCTCTTTCGGGGCGCCGATAACGAGGCTGCCCTCCATGCATTCTCTATGATATT
CGT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 660>:

GNMIH46TR gnm_660

5 TGGGTTCCCCAAGGCTTCACTGCTGGCTTGAGAGCTACAATCAATGCTGCAGCTAGAGCA
GCAAACACCAAACCAGCTGCGGGTTGAGCAGGAAGTACCCGCGTCCATCTCCGCTCCTCA
GCTTTAGTCCTCGCAGCAGCTATCAATATCAACAATATCATTCTCTAGTCTATCCTGTA
AACACTGCATTATAAGGGTTAATTCTTACAACCCCTGGCTCCAATGCCATCTCCTGGG
ATCTCTGCCTCAAACAAGCCGCCACCAGGGCAATCATTATAGGTAGGGCCAAAATCAGAG
GGGCGGGCTTTCTCGATGTCAGGTGGAACCCAGACCACGTCCAGAGGGTTAGCTTCGTGC
10 AAAGATCCGGGGTTCCGGTACATCCTAGGGTTGCGGGTACTTTACTAAGSTCCCTCCAA
GCTCCTAGATCCCAAGTCCCGGCAGGGGCGCTGCTAGCCTCTCCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 661>:

gnm_661

15 CAGGAAACGCACCTTGCTAATAAAAATCTCAACAACCTCCATCACGGAGATCAAAGTAACAA
CAAAAAATGCATTTAACCTCATCAAGGCTAATTTCTTCGATAAAAAAGCCGCAACGGGG
GAGTCTTAGTAAATCTTCGTGCTAACTTCCTCATAAAAGCCTCCCTTCTTATCCGAATAA
ACCTCGCCGAGTCTCTAGGTGCTTACGCCAACATAGCTTGGATAGCCTCCATsCTTCGTT
CCGACATAGTCGATGCAATTTAGGCCCTCGATTGGTTTCGAGCAATAGTCCGTACAGGGG
20 CCAACGGTATGGCCCCGCCCTACTAAAACCGAGTCTCACTCGAGTCATTGAGCTGCAA
ACACTAATCTAACTACCTCACGGCTCTACGGTGGCAATACATGTGATAATCCTACTCC
GAACAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 662>:

gnm_662

25 GCGTCACCTTAGGCCGAGTTACGGTCCTAACCGACCTGGGAATTGGCCTCACTACCTGTG
GCGTCGCTCCATCCGGGGTCGTCACTTACAATATCCTACCTCGCGGCTGTACATCCCTCT
CCGGCATCCTAACGGCGATTTACGTGGGAATTCCACTCGTGGGCCGGGCTATAGATCTT
ACAGCGTCTTCCTGGTAATCGTCGCTGCTAGGACCATGGGGTTGCTTCTAGTAAGCATGG
30 CCATGGCCTTCGTCTGGTCAGGGTAAACCGGGCGGCGCTCACTTCGAGGTGGTTCTTC
TGGCTCTTAGTACGTTTCATCGGCCCTATACGATTTAGCCGGCGTCCCGTAAAGCTCTTCG
CGGTCTCTACAACGTCAGCCGGCTGGCCGAAATCTTCTAGACTGCTGCGTCCCAAGTA
TCCTGGGCCGCGTGCTCTGGGCTTCGGGGGCG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 663>:

GNMIH50TR gnm_663

40 GCAAAAATTGGTAATAAACTCCTCCAAATAGAGGGGCCCCAGCTTCTGGATTTTTTGCGC
CCCTACTACTTCTATCCGGCCTATCCTCGGGTCTCTACTACGTTTGCTGGCTTCAACG
CGGGCTTCTTAGTCTCTCCTCCTACCGATCCATAAATTCCGTTAGCGCAAAGAGCTTCT
CTTCCATCAGCTTAAAAGTTGCTGCCCTAACCTAATTCGTTGCTTTCAACATAATCCTAA
TCCTCGCCGAAGCCGAGGCATCATAGTATTCGGGGCAGATATCTCTAAAACAACTTCT
CGCCCCCTCAACGCCCTCAACTCCTGCCTATATCAAAGTTCTAAGTTCTGTATCTTAGTTA
CTGGGTTCTTCAATCCTGCCTCGCCAAAGGCCCTCCCAACTGC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 664>:

GNMIH51TR gnm_664

5 GTTCTAAATTATTGTTAATTGTATAAATTTGGGAAAAGTTCTGAGAAGTCTTTCTAAGGG
CAGGGAAGTGGTGGATGGCAAAGCCTATAAAAAAGTTAAGTTCGTAAACCTAGCAATCA
TTGGTGCTTGCGTAACTAAAAACAGGGTAAATGCATCCTGCTCGGGGCCTACCTCGGGCA
ACAGATCCGTCCTTCTGCCATATCTCTGGATCCGGAGTACTAAAGTTCGATCTTCAGGCG
TCACTAAATTCGGGCGGGCGTTCGTGTAGTCCCTACCAAATTCAGCGCCGTCCTAACCA
AAGCGATATTGGTGTTCAGGTAAATCAGGTGGGCACGGGCACTGGCTCGTTGCAACCGAT
10 CCTGGTTGCTTGCTCGCTCCGCCGTCATATAATTGGTGGCATAAGACTTTCTAAAACTG
CGCCGAGAGCCCCCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 665>:

GNMIH52TR gnm_665

15 AATGTGGCTGAGGCTAGCTGCTAGGCTATACGGGCAGGGCATACTGGCGACAAAGTAAGG
TTCAGGAGGATTAATAAGTCAGGCACAAAAGAAAAGAGGGATTGCAACTGACAAGTAC
GGGGCCCTAGTTACCGGAGGCGAGGAGGCAAGAATGGAAAAAGAGACACAAAGGAATTAG
CTAAGGTGTTGATGTAGCCTGCAAATTTAACTTCAGATTCAATGGGTTGTTTCAGAACTG
CCAATAGTGCAGGATCAGCGTTCCTGGCCAACGCCAACCTGCAAATGCTTCTTGTCT
20 CGGACTCCCTCGCCGAGGCTTCAACGCAAAGTTCGGCAAAAATAGTTCAGCTACATTC
GGGCAATCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 666>:

GNMIH53TR gnm_666

25 GCTTTGTTGTGCAACTTCATTATGCTATTTAGTACTGCTGGCTTTCAGATAGAGGCGCTA
TGGGTCTTACAGATCTCCTTAGACGTTCTATTACAGACAATGCAGCCGGTCCAGCAAAA
GATTAAACGGAACGAGGTGCTTACGACAAATTGTCTGTGTTCAAAACATGTGCTGTTTTA
GTAAAGTTCTCAATCCGCGACTCCTGCTTCAGGCATAAGGGAGTGGCCCTAATTAATCCT
CGGGGCGGTTAGGCACTGGCAAGCCTCCGGCTCGACAAAATGCTGCGGGCTTGAAAAGA
30 AAGCCCCCTCTGCTCGTTAAATGCCACGAAGCAGGGGTAGATCACAGCGATTGCCAACA
AGAGTCTTCTTCGGGGTGGATCCGCTACCTAGATGGGCCTCTAGCTTCCGTTTCTCGGGC
GAACATAATGGCTTCGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 667>:

GNMIH54TR gnm_667

35 GTCCGATTTGCGGAGTCCGGTTCGATGAGTGCGATGCGTGCTCCTGGTCGTCTTGGCGTT
GCAGGGGGCGGAAGTTATGAGATGATTGGTATAGGGTGAAGAAAGGGGAGCACGAATTA
GATGGTGGCCGTCGTTAAAAGTCCGGGTCGTTGGCTGCTCCTACCGGTCCTTAGTCCGGG
CCCTCTCAGGGCCAAAGGGTTGGAGATCTACCTATTAATCCTCCTCTCCGCGGGGGTTG
40 CTGCGGGGGCAGAGGGATGAGTGGCCGCTTTGATTTCGGTACTGGCTTCAAGGGGAGAG
TCCCTCTATCCCTCCGAAAAAGCTTCGTACAGGTTGGTACCCGGTGCTCGTTCCCTATCTA
AGCCTGGGCCCTCCCTCGAGCCCTCGGCTTCTTGCTGGGAGGGGCTGCGTCGGGGATAC
TCGCCGTCCTCCAGCCCGAGGAAAGGAGCGTCGTTATACGGGGATCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 668>:

GNMIH55TR gnm_668

5 AGGGCAAGGGTTTGACGGAGTGACCATACTTTTGAGGTGGGAATGAAGGGTGAAGTGGCA
AAGGAGCACATTAGAGCTGATGATTAGGGAGTAATGGGGGAGGGGCGGGAGGCCACGCG
GGGGATGAGCATTGTAGCGCAATTGCGGAAGCAATAAATTACGGGTAAATAAGTTTCACTT
AAGCATACCAGGGCAATAGATCCGGATAGGGCAGGGGTACCCTATTAAGCCGGAGTTT
TGAGCCTGAGTGGCTATCCGAGATCTAACATAAGCTTATAAAGCCTGGGTTCATATCTT
ACCCTACCAGCTGG

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 669>:

GNMIH56TR gnm_669

TTTTGTGTTTGCGCCCGACACCTCCTAAATTCTACGGGGCTGGCCCTCCTAGGGGTAAATC
15 GCTACCTGCTGGGGTCAGGGGGCTACTGGTCCGGGGACTGGTCTACAAATGTGCTGGGT
GGTCAAACCTGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 670>:

GNMIH58TR gnm_670

20 AAAACTTTGGCGAAATCTTGCGGGGCATTGGTTCGTATCCTAATCCCAGTCATCAGAGCTC
TTATCAAAAACCGGTGCTTCGTAGTGGTTATCGGCAGGGTAAGGCTTCGGTTTCTACTCG
GGCACTTCGCTAGTGTCTCTTTTCTCTTAAATGGTAGAGAAGTCCCAAGTCTTCTTGGTA
GACTGCATCTTCTCAGCATGGTCTTCGTTCAAGTCAGGGTTGTCTGGCAACTCGAATTTT
AAATTGGCATTTCGCGTCGTCGTTGCTCGTGTAGTGGCCTCAGGGTGCTCGAGAATGGGC
GTAGCCCGGGATGTTGCTTGCGAGAAAGCCTAGCTGCAAGGGAACTTTGGGGTAACCT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 671>:

GNMIH59TR gnm_671

CGCGTCGTGCAAACACCTCCGTCGGGCCTCCGTAGGCTGGGTTAGGTTCGGCCAACAGTCT
30 AGGCGCAACTACGGGCGTAAAAAAGAGGTCTAATATCTCTTTTGCTTCTCTGCCCTCCTC
CGTACCCAACTCCAGGGCTTTCACTGCTTTTGCAAAAGTCGCCCTACCCTAGGAACTTC
CCGCACCTCCAAAGGCTTCTTAAGTTCACCCTCACACGCTCCGGGGCTCGCGCCTCCAC
TCCATGCTTCCGTTTCAGATTCCAATAAGTATACACAAAAATCGTGCAAGCCTAAGCAATA
AAGGCAAGGGTTGGTGCTGCTGGCTCCGCGCTCGGGTTCTGGGGGTTCGGCGCAGCTACT
35 AAAATTACGATACCTGTAAGGGTATACTGGGCCAGAACCTCAAAAAATACCAAGTCTTG
G

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 672>:

GNMIH60TR gnm_672

40 TGCAGAGGCGTCTTCGGGCTTCGCTTGGGCCTACTCCGCGGTCCCTGCTGCCGTCCAACGG
GTGGAAAGCGTCGTAGGGATTCTCGCTCCGTAGCAGCCAATCTCTGCCATCCGAGGGC

TTAAACAAGAGGGAAATTGCTTCTGCATTCAACACCAAACCTCGATTGGTAATTGCAGCA
AATTCAGGTTGCTGCGTTTAAAGCTTCTCGCTTCAGATCTCTCGCCTACAATAGTTTCA
GGCGTACTGATTGCTGTTGCTCTCTAAAGCTCTGGTTGCTTAAATTAAAAGTACTAGAT
CGGAGTTTGAAGTCACTGCTGCATTCCCTCGAGGCGGTCCCTGCCGTCTTGCCTAAGATC
5 CTGCCGTGGCCAGGATCTGCCCTCCAGGCCGATGCATTCTCGGGTGAGGGTTTGCATTG
GGAGTCAGCTCCATATTTAAGATTGCTTTCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 673>:

GNMIH62TR gnm_673

10 CCTTAAAGTCTTCCGATAAGCTCCTACTGGTCTCTAAAGTCTCTACATCCTTAAGCTTTC
TAACAGGCCTCCTGGGGCTTGCAGTCTACGCACGGTTATGGGCGTGGGCAACTCCTGCG
CTACAGGCGCTCCTGCTGAAAACGAAAGTTTTAGGGGGCTCCGGCGATTCTGCGGGGCC
GAGACTGCTTGGCTGCACTTAAACGCGGATTCGGATTACAGGGGGAGGGATAGTGGGAG
ACCTCACAGTTAAACAGGCCAGATTTAAGGTGGTAACCCGATCTAAGGTAGGACTGGCCC
15 AAAGCTTCGTTGCAGGCACAGTTGCTTAGATATCTACCGGGCCAAGCTCCTCGTGCTTC
TCGGCAGCAGCGGCGTCTTCGGGCAAGTTAAGGTCCTTAACTTCTCGACTTCGCGGGCC
TAAACAATTGTGCTTAGGGCCGCGGCTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 674>:

GNMIH63TR gnm_674

TATTTAGAACCCGAGAGCGGGCCAAAAAGCAGGTGAAAATGGGACCTCGCTTCATACGAA
ACGTGGGCAGGGTACAACGTACAGAGACTCCGAAGGCGCTTAGGCCCCGAATCTGTGTGGG
ACGCAAGGGGAGAGGAAGGGGCAGAGGTTAGACGGTATGAAAAAGTTATTAATTATGACT
TAGAAAGAACGGACGAGGTTGAAAATAAATCCGGGGAAGTTGCTTGGGGGCAGGCTCTGG
25 CTGGCTCGTCGGAACCTTAACCTCTACTTAGGCAGCAAGGAAGAACAAACAAGTCAGGTA
ATCAAGAAGGGTATCACGGTGGGGCCGAAGAAAGTAAACAAGGAAAAAGCCTAATATTA
AGAAAAACGATACTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 675>:

GNMIH64TR gnm_675

AAGATCATAGTTCTTTAGAACAGGTCCGAGTCAAATTTCTTCTAAGGGCCAGCAAAGTAA
ACGGCTTAAGATGTACCAAGTGGGCGGCAAAAGCAAGCACCGCTGCCAACCACACAACC
CCTGCTCTCTCAGAGTCGAGGCTGTAATATTCATCTTCTTTGCGAGCTTCAAAGCGTCT
GCTGGTCTGGGTACATCCTAGAGTGCTTCTATCCCACTTAGTCAGGTACCTACCCTTAA
35 AGTCAAAAAACACCACGGGCGTCCGGGTAATTATAATAAACAGCTTAGGGGTGGCCAAA
CAGCCACTGGCCCGCAGCTTCTTAGCAGGAGCCAATGGGGCGCTAAAATAGAACTATGG
TATCAACACA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 676>:

GNMIH65TR gnm_676

GCCTCTTAGATTCTTGCTACCGTGCTTCGTTATCCATCTTTCTTAAGAAGAGCCACATT
AAAGTCAGCGCGTTACGGGTGGGGATCGCCTCCAGAGTTCGTCCTGGGCTGGTACGTGTG
AGAATCCTTGATGCTCAAAACAACGGTAAGCGTGGGATTCTTGTTCTGTTGTTACCTCTG

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5 GTTGGTTCTAGAGATCTTCGAGACGGGGCGAAGGGTCTGGAGACTTCGCGGTGGGGTGC
TTAGATACGGTCCCAAACAGAGCTGCTTCATCCAGGTCTTGCGCGTCATCAGATTGATT
GTGATTTTCTCGTTGCGAGACTTGCTGGTAAGGCTACCGGGCACCAGTAAAGGTGGC
GAGCTCGTAGGGCCCGGGCAAACGTGTTCCGAGCTACAGGTCCCCCCCCCTAGGCAGG
GGCCTAGTTTGCCTGCGAATTCTAATCGTAGTTTCATTCTATACACTAGCTGGTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 677>:

GNMIH66TR gnm_677

10 GGGGATATATGTAGCAAGGTAGTAAAGCCAAGTGGCAGCCGTGAAGAGTGAGTTTAGTA
AGAAATAAAGAGCAGGAGTGGGGACTGGGAATGCACAGAACTAGTGGGAAAGGGTGG
GTAAGAAAATTGAAAGGGCTGGCCAAGGATGGGTGCGAAAACGGAGGGCGGCCAGGTT
GTGGTATTGACGGGAATAAAGGGGTTAAAAAGTAGGGTTCTACTGGTGGGGCAAGGGGTG
AGGAAACGGAGGCTGGCGATAAGGGTTCCAGTAAACTCTTAGAAGAGAGGTAGGGAGA
15 CTTGTAGTGAACCTGGGAAAGGAGGAAAGAGGCAACAGAAGAGGTTGGGGTGGGATAG
GGCAGGGCAGGGCAGAGTAATACAGAGAAAAGCATGGGTTAAAGATGGCGAAAAGTGCAA
ATACGGAACCGGTGGCTGGGTGGGACT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 678>:

GNMIH67TR gnm_678

20 AAATCTGAGTCTCAATAAAGTCAATAGGTACATTGGTTGCTTGCTACCTGAGCGTGGGT
GGAAACAATGTCAACTCCCCTGGAAGCCGAGATTGAGGGCCAACATCAAGACATCTAG
TAACCTAGTCCAGAGCGTCGTGCAACTTTCAGGGGTGGATGTAAATATTAAGTAGTATCA
TTCAGGCAAATTAAGGATAACCAAGTAGGATCAGCTAAGATACTATATGCCTACCATAAA
TTCATAATGTTTGTGGGTTAAGAAGGGTCCCGGGGGCTCTTGCTTCTGGAAGGGGAGCT
25 TCGAGCAAACGTAGCTTCAGGCCCGGAGGATTCCCTCGCTTGGAGCAGAGCCTCCGGGTAC
CCTCGGTTCCCTCTCTCGGGTCCGTTGCAACTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 679>:

GNMIH72TR gnm_679

30 GAATCGAGGACTACCGAACTTTTGTGGTTTTTCGTTCCCTACTCATTTCAGTCACTTCAGG
CGCTGGTTGCTTCTCATTAGAGAATTTGGCTTCATCCAAGGGTCTGTAAATTCCTAGAC
AGCTGCAGCGACGGTGTCTTACAGTCATTATGATTATGGGCTTCGACTTCGTTAATGTC
GTTCTAGACTGGATTTCGTTTCCCTCTAAGCTGGGTAATTCGGCTTCCGCTACGCCAAGAC
AATATCTTGGGTAAAGAGTCTTCTTCTGTTCCGGTGCTTTCAAACGTTCCGTCCTATA
35 TTCGTAATTCGGGGGGTAAATCGCTGGCTAGCTCCTGCAAATTCGTCCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 680>:

GNMIH73TR gnm_680

40 ATTCGGGCTTCTTCAGGGGATTACGGGTGCTGGTGGGGGGCCGCCAAGATGCGTTCTGC
CGACCTGGTCCCTGCGAGCAAAATCTTCTGTAACTTTAACCTCCACTACTTCTTCAA
CTAGCCGGGGCAAGAGTGGGAGCTTACAGGGTCTGGCGGGGTACTACCGGGGGCAGGGC
GTCCTAGTGCAAATAACTCCTCTTCATTAAGTTCCGGGGCTTCGGGATCTCAAGTTCA
GACTTCGTGTTGTTGCTAAACAGATTCTGGGCTGTCCGCATCCAGCTAGAAGTTCAGTGC

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TGGGGTCACTCCGGAGACTGCTTATTCATATGAACTTCGACTTGATTCTGAATGGCnCTC
CAAATAGGGGTTGCGGGCTTGGGAAATATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 681>:

5 **GNMIH74TR gnm_681**

CTCTTTCGGATTGCCTTCAGTCCGAGCCCTAAAAATGGTAACCCTCGCGATTATAGTTGC
AATCAGCAAAGGGAGTGTGGGCAACTGCCTCCTCAATCTTGCTTCTATCACGGTCATAGT
AGTAAACCTAGTCAGAAGTTGCAAGGCCAATAATCTGGGTTTCGGCCAAGTTACTACGGC
TCTCATCAAAGTCAAGGCCGCTACCTCCTGGTTAATCACGGGAAGTGTATCAAGGTTGT
10 CTTCCTCAATGTATCTTTTCGAGGTGGTCTGTGCTCAGGAATAATGGTCCGAGGTACCAA
AGTTGTAAGGTAGGCAGGCATGCCCTCTTCTCTTCAAATTCTCTCATCTCATTTCGATCG
AGCCGTCACCTCCATCACTTCAACGGGGTTCAGGGAGTGGTAAAAGTTAACTTAAGAGC
CATTTCAA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 682>:

GNMIH77TR gnm_682

GTCTCCTCATAGTCAGCTTCGCCGAATCCCTCGACCGGGTTCCAGTCGAGGTTGGTATGG
GCAAAAGTCGCAATCTCTGCCGAAGTATTACTAATCTTCTATTTATAGAAAATCTTATCA
TTATCCGTGCTCCTATAATCTTGGGTGTCCTCCGCGGTCTTAAATTCAGAGATCTAAATA
20 TAAATCCTACAAGTCTTCTTATCATTCTCTTTTCGAGGGCTGAACAAATGGGCAAGTTTCG
ACCTCGACTTGGGTGCTGTTGTGCGGCATTAGCGTCTTCATTAGTAGTGGAATCCTGCTA
GTCTTAGAGGGCATCATATCGTGAATACTCTAAGTAGTACTCTCTTCTATCATAAACTTC
TTACTCATCTAGACTTCAAATTCAACTGCTTTCACGGTCTAGTAAAAGTAGTATAAGAA
TTCTAAGTACTCGCT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 683>:

GNMIH78TR gnm_683

GTCCGATTTATCATTCTTCCCGAGCAACTTTCTTTGGAGGTTTTCTGTAGTCCAATATCT
AATTGCTCCTAGGGTTCATTAGGTACCAAATGTGGAGCCAGGGGAAATCATGTATCCTCG
30 GGGGTCTTAGTCTCTGCCGAGGAGCAGTCTGCCACAAAACAGCGGTTTTATGTTCAAC
TTTCGTTTTCTCTTTAATACCTACTATAATAATACCTTCGAATTCTGGTCTTCAACTT
CTCTGTCTCTTTCTAATCTTCAGGATTCGAATCATTATATCCGGTAACTTCGTAGGCAG
CAAAAACTCCTCATTGCTCTTCTGCAATTTGCTGTAAAGATAAACTAATTCCTCATCAA
AAGAAATTCGGTAGTTGCGGGCCTCATCTAAACAAGATATTGATCGTCTTTAAGTTCAA
35 TGGGGCCATCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 684>:

GNMIH80TR gnm_684

AATTGTCACAGGTGACAGGTTTATGGGTGCCCCAAGCATCCGGTACGGCTAGGTTCATAA
40 TATTCTAAGTGCAAATTTTGTCTTCGGAGAAACATAAAGTCTCCTATAAAAACTTCG
TGCAAAGCTCGGGTCTCCGGGTACATCTAGGGCTGTAAATGGGAGTACCTCGAAGCCT
CTCGGGTCTTGGTGTCTTTCATAGGTGTGCTATACTCGGGCTACATCCGGGTAGACTTGC
TAATTCTCTTTATAGTCTCCCGCAGCGTTACTACTCGGTCTAGGGGGTATTAGTATGCC

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TGGGACTCCTAATCCTAACGGTCTGCTTGATGGGTATGGTGCTGGGACATATTACTAAAC
TAAACTCTAAGGTGGTCTTTAAACTAGGTACAGACTTCCTTAGGGTGGTTCCTCTCCGAA
GGGTCCTGGTCTGGCTAACCATCAATTCATCCGGGGCGTCTCTCTAAACCTGTCAGCC
TCCTCCGGATTCTGGTCTCCCTGGTCTCC

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 685>:

GNMIH83TR gnm_685

AATCCGTACTCGTCGTCCTAAACTTCGTTCTCTTATCGTCCCCTGCGGCTATATGGT
CATTCTTGTTTCATAAAAGTAGTGTTCCCTCAGATTGGCTCTTAAAACTTCGTAATGGCCC
10 TCATCTGGGACATCCTCGATTCCCTAGTTATCTGGTCTAAGATCCTCCTCCTCTCGTGCT
GTTTCGTAGGTCTCCGTAAATACCTACCTCCAGGAAACGCGGCAATTAGTATCCTCAAAT
ACCTCAGAGCCTCCAGGGGGTCTTTCAGTATCTTAGGAGCCGACAGATTCTTGCGCTCTA
ATACCGTCAAAGTTGCTCTCCCTTCCGGATCTGTGGCGATACTGTCCCTAAGCGCCTCCC
CTGCCGTGAGCGGCTTACGCCTAAAAGTTTCAAAAAGCTTGCAAATCCTCGAGTCCCTC
15 AATGTCCAGGCTCGGGCACTACTCCTAAGTGCCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 686>:

GNMIH84TR gnm_686

GTCCGATTTCTCCATGGCTGGGGTTCTGGGCCTGAACGAGCGTGTGCGGGGAAACGCAGG
20 AGGCAGAGGTGCTAGAGGTTCAATCCATAGTAAGCTAGTATTGGCGATGGTTAAATTCCT
ATGCTTAGGAATAAACCGAGTCCTTAGCTTGCTTCTAGCAGCGGCGGTAGTTACGTCAGG
ATTGATCCTAAAAAGATTGGTCTGCCAGACGACCCTATTGGTGGCCGGAGCAAGTGTGGG
TCTGTTAAGAGTTAAATCGGGTTGGCTACTGAGGCTTTTCTGGGCCGATGCTTGGTTTCG
TCGGGTGGTTTCCGGAACTACGAGGGCTCTCGTTACCTAAGAGCCGGCTTAGACAGGGG
25 CTTGCGTTTCCGCGGCCGTAACCGGCATTGCTATTACGCGCCCGTAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 687>:

GNMIH85TR gnm_687

GTCGTACTGGATCTACTATTTACCCTTGCTAGAAAGTTCCATGCCGAGCAAAAAGCATGAG
30 CAACAAAGTTTTGGCCAGCTCGGCCAACAGCAAAAGCGAGTGCAAGTACGGCATATAGTA
CATAAATACTTGTAACATAAGATCCAATGGTAGCAAAAAGAGCAAAAGCAGGAGCAACAA
AGTTTTGGCCAGCTCGGCCAACAGCAACAGCGAGTTCAAGTCCGGCATATAGTACATAAA
TACTTGTAACATAAGATCCAATGGTAGCAAAAACGGCACATACGCACGGGCTAATTAACA
CTTCTCTACTTCTCACTTTAACTTCTTATGTACTGTAACTTTAACTTCTTCTCTAACT

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 688>:

GNMIH86TR gnm_688

TCATCAATTCTACATCGATAAAGACGATCCAATTCAGGTATGGCCGCTGGTACTATTGGA
CACAAGTCGGTGTGGGCACTGAACCTCACTTAATCTTCGATGCCGGGGCGGAAGTTATG
40 AGATGGGTTCCATGGGTTCTAACTTTGCTTGCTTCTGCAAAGAGTGGGTCTCCAGGCG
CTGTTCTTAGAGTCTGGATTCCGCCTCCCTCCGGGCAGCAACATCCTATAAAGCTTCG
GGCAACCATCGGTACATCCTAGGGCGCTGCAGGTCTAGTAACAGGGAGGCGGGCCTGCTT
GTCAGGGCCAGCGTCAGCTCCATCTGGGGCCGTAGATTAATCGGAATCACCGACGTTAGC

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TTT TAGGGCCGCTCCGTCAGCCGCCGCTGCAACGTCTTCTTATAAATGGTCCGGGGTGT
AGTCCCTGGGCCGACTACGGCAAGGGGTCCTGGGCACGGGCATCCCTCCGGGGCTTC
GCTAGCCG

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 689>:

GNMIH87TR gnm_689

AAAGAATAACCTTCGTGCAAAGTGCAGGGGTAATGGGGGTACATCCTTGGCTAATGGCCT
AGGGTAGGTCGATCCGGATCTTCTGAAACCTCCTGAATTCGATTGATCACTGTGCAGAAA
AAGCAGGGAGCCAACTAACTGCGACTTGCTAGCAAATTGAAAAGTTAGCTCGAACCGCGC
10 GCTGGTACTCTCTATCTCGGTTAGCAGGGATCCTGTAAGCTTCGTGCAAACTGTATAAG
GGGGTACATCCTAGGGCGGAGCTAACGAAAGAGGTACAGGTGTGCGAGATGCGGTACATC
TCGCTCGCTGCAACATATTGnTGATCTGGCTGCTACAATGGGTCCCGAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 690>:

- 15 **GNMIH88TR gnm_690**

TAGAACCGATTTTGTGTTCAAGAAGGGTGATTCATGGGGGCAGCTGGGTAAGACAAG
GTAGCTTCCGACACACAAGAAGACCTGGATTAAACACCTTATTACGGGAAGGAAGCCCG
ACGGAGGATAGGTCTTACACTTCAGGGGAGAGCTGCCAAGAGTTAGATCGCGCAAGTCGA
AACTACTGCTATCACACAAACCACGATGCAGAAAAAGTAGATTGGATGTGTGATCGAGG
20 TGGGGAAGGGAAGTGTAGTGGTGGTAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 691>:

GNMIH89TR gnm_691

AAAACGACCAGCTTAGGGCTATAATACTAAATGCGTTATAAAAAATGAGGTGGTAGCAAA
25 AATAAGTTATACCGAGCTATAAAACCCAAGTTCTTGATTATATTTGAAAAAACA
GTTGCAGCAGGGGGAAAAGAAAAAACCAGTTTATACAAAAGGGTGTGAGTAAGAGAA
GTAGTCGGGGAGGAGGGAAAGGGGAGAGGGAGGGAGAATTTGGTACTAAATCCGATAC
TAAACTCGAAACCTAGTGGGGTAAAAAGGAAAAACGGAACAGGCGGAAATAACGCGAA
AGTCCCGACACGGCTCCGTCAGAA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 692>:

GNMIH90TR gnm_692

TCCGGGGCTGACTAGGGTCCGTGGAGGGCTCTAGCCTGGGGGTCTCCCGCTACGCTGG
TCAGAAACCTGGTCTCTGCCAACAGCTCTGTCTCGAGGGCACTACTCTCTCTATGGG
35 GCTTTACGGGCATAGTCGACGCCGTCATTCTTATACTACTCCACTAACCTCATAGTAA
GTAGACAAAAAGTGGTCTTACCAGCGAGGGCTGGGGCTGCAATCAACCCCTAACTAGCC
GTACATTGCGCTTCAGCCTGGTCTCTCTGGGGCTTGCGGTTGGCGGCCGCTCTCCCCG
GGGTGAATATGGCCATCGCCGGAATAAGGTGGGGGTAGATCCGATACTATTACTTCCT
TTTCATTCTCTAGAATCCAGTCTTCCTAGTACTGCTCCAGCCCCCACTCGGTCGTAA
40 GCGAGGTCGGCAGCAGAGGCCATGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 693>:

GNMIH91TR gnm_693

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5  GGTTCGCGGCTACCTCCGAGGTCCTCTCCTGCCGCAATAGGTCCGACCCGGTCGGTATC
   TTGGGCCGCGAGCACCGTCGTATTAAAGATCTTCACCGACCTGGCGGTCTCCTCTACTACC
   ACTCCCGTGGCGTTCTCTATAGAGGCTATCCTCGGTCTCTTGCTTAAGAAATTGGCTCTC
   CTCTGGTGGTCGACTCCGTCGATTCGGCAGGGCTTTCCTCAAAAATAAGTTCCTAAGC
   CGGGGCCGGGTACCTGGCTGGGCACCGGCTCTCCAGTCAACGACGTCGAGGTCAGCCTC
10 GACTTCCCCTCTACCAGAGCCCTCGGGGTAAATTGGGTAGATGCTCCATCACTCTCAGG
   GCCAGCGTCAATCCTACCTGCCGCCACAGATTCCGACCAGACGAGGTCGCTCGCCGTACA
   TTGGTCCCGGTCACCAAAAGTGCCGCCTGCGTGGGCGTCTCAA

```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 694>:

GNMIH92TR gnm_694

```

15 CCTATCTTGGGTAGTCCTAGGGTTGGTGTCTTATCTCTATACCGTCCAAGTTCTATTTCG
   AGTTTTTGTCTAAGATCCTGCGTCCCGGGCTACTCGGTGGCGGTAATTCTATTGTCTT
   CCTCTCCAGAAGCTCCGCCAGAGCCTGTGGCCCAATATTTGGCACCAGGGGGAGTACAGA
   CGGAGTAACCTCGGCATTCTTGTAGCGGTCCTAATTTGAGTAACTGCATTCAAGTGGG
20 CTGGAGGGTTCGCTCGGGTAGTGAGAAAGTTCAATAGTTCGGGTACTAATAAATCTCTTTC
   TTCTCTTGTGCAAAATCCGGGATGGGAAAATCCAAGGGGAGAGGAAAATCTATGTTCTA
   AACTAGGGGTTTGTCTTTCGGGTTTACTTCCTACCTCTACAATCGAAGTAACGGGCAAGG
   CAGGGGCTTCGGGTCTCTCCAACGAACATCCTACTTCCCTTTAACGTTTAAATCTAAAT

```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 695>:

GNMIH95TR gnm_695

```

25 CTCAAAGATAGAGGAAAAATGTAAGCCACGCAGCCTAGAGGGACCAGACAGAGATGCAAT
   CAACAAAAGAAAGGGCGGTGGGGTTGTAGCGGGGACCCACGCAGGATAAAAGCAAAGTC
   TGCAGCGCAGGAGAGTCCAGCTGCGGTAACCTATTGCAAAAGACAATGGGGGTAAGTGC
   TTGGGCGACGGAATCCACAAAGGGACATAAAGTTTCAGGCTCTATGGGGAATATAGTGGG
30 TGGAGGCTCCAGACAAGATGAACGAAGCAGAAACAGCTGAGGCCGAGGGGAA

```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 696>:

GNMIJ55TF gnm_696

```

35 CCGTCCAACCTCGCTCAATCAGGCTGGCACACGTGATCGTCTGCGTGCTGCGCTGGAAGCG
   GCCGGTCATGCGCGACAATTACAGGTTGAGCATGGGCCGGTGACGGATAGTCGCGCCCCG
   CGAATGGCCCTGGTAAGAAAAGCCAGCCAGTTGCTGGCCGAGGACAT

```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 697>:

gnm_697

```

40 AAATCGAAATAAACCGTGTGTAAACGGGAGACCGATGCCGTCATTGCGCGCAGGCGGGA

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ATCTAGACCATTGGACACCGGCAATATTCAAAGATTATCTGAAAGTCCGAGATTCTrGAT
TCCCACTTTTCGTGGGAATGACGGGATGTAGGTTCGTGGGAATGACGCGGTGCAGGTTTCC
GTGCGGATGGATTTCGTTCATCCCGCGCAGGCGGGAATCTAGACCTTAGAACACAGCAAT
ATTCAAAGGTTAGCTGAAGCTTTAGAGATTCTGGATTCCCACTTTCGTGGGAATGACGGG
5 ATTTGAGATTGCGGCATTTATCGGAAAAACAGCAACCGCTCCGCCGTCATTCCCGCGCA
GGCGGGAATCCAGACCTTGGGATAACAGTAATATTCAAAGATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 698>:

GNMIK41TF gnm_698

10 CCGAGTCCGTGCCGTCTGAAGATGCTTTGGGCAAATGGTGGAAAACCATAGAGGAATGGC
GTTCCCGAGATTGCTTGTGGTTTGACAACGGCAGCGAAATTATCAAGCCACAATATGTGA
TTCAGAAGCTTGCCGAGATTACCGGCAATTCGGCAATCATCACATCGGATGTAGGGCAGC
ATCAAATGTTTGCGGCTCAATATTATCCCTTCGAACGTCCGCCCAATGGCTCAATCCG
GCGGTTTGGGTCCGCAACACAGGCGCCTCTTCAAACGTCAGGTCCCGAGCCGCTGCTGC
15 ATGGCTTTTTTCGAGTTTGGCGATTTTCGTTAATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 699>:

GNMIK42TF gnm_699

CCGTGGTGTGACTGCGTACCTTTTGTATAATGGGTCAACGACTTACATTCACTAGCGAGC
20 TTAACCGAATAGGGGAGGCGTAGGGAAACCGAGTCTTAATAGGGCGATGAGTTGCTGGGT
GTAGACCCGAAACCGAGTGATCTATCCATGGCCAGGTTGAAGGTGCCGTAACAGGTAAGT
GAGGACCGAACCCACGCATGTTGCAAAATGCGGGGATGAGCACGATGGGCGTGGGTCTGC
CTTATGCGATTGGTGCAAAACTTGCCGCCCCGGATCAAGACGTATTCTGTATCACCGGCG
ACG

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 700>:

GNMIK48TF gnm_700

CCGGTTTCGGTTTTTTCCGATAAATTCCTGTTGCGTTGCGTTTTTGGATTCCCGCTTTTG
CGGGAATGACGGTCGGTGGGGTTTTCGGTTTTTTCCGATAAAGTCCTGCTGCGTTGTGTTG
30 CTGGATTCCCGCCTGCGCGGGAATGACAGCCGCCGACGGGAAACGACCATACACAATTA
TTGACAACCCCATTTATTGCGAAAGTCAGCCTAGGAGAATCCTCTGTAAACCGGTCTGA
GTCTTCTTTTCCCCGTACTCAATAATTTATCCGCCGCTCTTACCACCAAATTCATTT
ACAATTTGTAAAAATCGTGTGCGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 701>:

GNMIL13TFB gnm_701

CGTCCGACCAACCGTTCAAACTTTTCATTTTACCCGACCACGCAAGCCGCCGAACAAAAA
ACAAGGGGCTGTCTAGATAACTAGGACAACTTGATTTTACTAATTGTTTAAAACGGA
CCAGGACTTTTAATTTAATGGTGGTTAAAAGGCATTTGGAATTCTTTAAAATCAAGTTAA
40 AA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 702>:

GNMIL82TFB gnm_702

5 CCGGACAAATTTTGGCGCATGGCTTTGATGCGGCCGCGCATTTTCATCGAGTTCGGCAAT
CCATTGTGCTTTCAAATCATCATTTTTCAACATCGTCGCAATGGTGTTGCGACCGTGTGA
AGCCGGGTGGAATACAAGGTACGGATGATGGTTTTGACTTGGCTGTGGGCGCGGGCTGC
TGTTTCTTCATCTTCGGCCACCAAAGTGAACGCGCCGACGCGCTCGTTGTACATACCGAA
GTTTTTGAATAAGAGCTGTCTATCAGCAATTCTGTATTGTGTTTTATGATCACTCGCAA
GCCGTTTGCATCTTCTTCCAAACCAT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 703>:

GNMIM22TRB gnm_703

15 CGGTTACGGGCGCGAATTGTCCGCATTTCGGGCTGTACGAGTTCGTCAACGTCAACACCTA
CTGGGAGAAATGACACACCCCGTGCCGCTTCATACGGTATCGGGTTGCGCTAGAGCCGA
TTAACGGCAGTATTTGTTACGGCGTTATTGTATTTCCGAATCAACTCATCCTTGTTTTT
TGCAATTTGAATTTCCACCGCCTTCAGGTTCAATTTTGAAATCCGGCAGTTTTCTCTTT
GGTCTGCCGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 704>:

20 **GNMIP07TF gnm_704**

CCGCAAATACAACCCGATTTTCGACTGGTCGGAACACGACGTGTGGGCATACATCCTCGC
CAACAATGTGCCTTACAACGATTTGCCACGTAAGGATCCCTTACCGAGAATGCCGAAAA
CACATCAATGACTATCTCGCCAAACGCGGCAAAGGCTTGGGCGTACGCTTGGGTGTGAAA
ACCAGCGGCTGCTCGGGATGGCGTACAACCTTGAATTTGTCGACGAAGCCGATGGCGAC
25 GACCTGATTTTCGAAGGACACGGCGCGCATTTATATCGATCCGAAAAGCCTGGTTTAT
CTGGATGGCAGCAAGTCGATTACACCAAAGAAGGTTTGCAGGAAGGATTCAAATTTGAA
AACCCCAATGTCAAAGACTCCTGCGGCTGCGGCGAAAGCTTCCACGTTTAAGGCATAAAA
ACGGCGGGACCGTATCAAACCGTCCCGCCATTTTACGCTTACTGCCTGTTGTAGCTGC
CTTTGCCTTTCTTTCCGTTCCACCTTGTGCCGGAACAAAT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 705>:

GNMIP26TR gnm_705

35 GACGTCGAGGTTGATGGAGTGGCTGTACCCGACCAGCACCAGAACCGGTGCGGTTTCACC
GACGACGCGCGCATGGACAACAAGATGCCTGACACGATGCCCGGCATCGCGATCGGGGC
TTCATCGGGCACCAACCTGAGCATCTCCTCGCCTGCCGGAACCACCACCGCAACATCAG
CAGGACCAACGCCAACGCCACGGCAAAGGCGCTCTGCTGAAATCCTATGGTGGCGATCCA
CAGGCTGAAGACGAATAACGCCGCCACGATAGAGGGCACGCCGGC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 706>:

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GNMIP64TR gnm_706

ATGGGCGTGGCTTTGGCGCGGGCGTGCCGTGCCGCCGGTGCAGAAAGTCAGCCTGATTAC
GGACAGCTTCAAACCGCGCTGCCTTTCCGGCATATCCGATACGGTTCAAGCCGTCAGTGCC
5 GAAAATATGCATCGCGCAGTGCATCGTTTAATCGACAAACAAGATGCTTTTATTTCTGTT
GCCGCCGTCTCAGACTATAGGGTTAAGAGGAGGAGTACTCAGAAATTCAGGAAAGATAGA
ACTGCCAAACCGTTATCCATCGAATTGGCTGAGAACCCCGAGATTTTGGCTTCTATTGCC
TCATTAGCGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 707>:

10 GNMIP74TR gnm_707

AGTGGGTGTCGATATTTACAACCTGGGTAACCTCACCCGTTCCAACCAGTCTAGCAATAT
CAATCATCGTCCTGCCGTCAAAGCCGGCGATGTTTTGCAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 708>:

15 GNMIQ34TF gnm_708

CCTGTCGTCTTCGGCATCGCCAAAGAAGGCTCGCTCAAACGCGTCATTACCGGCGAAGAC
GAGGGAACGCTGGTTCACTGCTGATTGACCATAGTGTCCGCAGATATAGTCGCATATGGG
CTTCAGACAGCCATTTATTATATGGAGATTATAGTGGACATCCCATGGCATCGACATCAC
CTCTGGTGGCAGCATCCACGCCTACCCACCGCATTTCGATGCCCCCAAAGGCAGCACTAA
20 CATCGAGGCTCCGGCGGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 709>:

GNMIQ67TF gnm_709

AAACTGACGTTTGTCTTTCCAGGATGAGGTAGAACCATGATTTATCTGTTTACAGGAAAC
25 ATGGGGACAGGCAAACCTCCCGCGTCGTCTCTATGATTTGAACAACGAACACGGATTG
TTCAAATGAAATTGGCACACGGCACATATGTAGACAGACCGCTTTACTTCTGCCATATC
GACGGATTGGATAAACCAGCAGTTGAAAGCCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 710>:

30 GNMIW65TR gnm_710

TCCATCGGGTCGAGCGACTCGTCCAACCTATGCCGCCCTTCTCCGCTACGGTATCCGTACC
AGCCTGCAGTCCAAACATGTCTTGCACAACTTGCGGCTTCCGTTGCACAAGCCGATAACC
CCTTCAGTTATAGTGGACAGCAACCGCTTTTGAAGACAGCAGTGATATTGTGTTGGAT
TTTCCGTTTAAAGATTGTGTGTTAAATGGCCGACAAAGCACCGAGGAAGGCGAAGAAATT
35 TATTTTAAACGCAATAACAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAG
CCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAGCCAG
AGAGAGACAAGAAATCTTTTTTAATCAAACCTTGCTTTTGATGAAATTGATCGGCTTTT
TGACGCACAAGCATTCTCAAATCTCTCGCTATACCGCAGACGGCAAGCAAGCCGTTTG
CGCAAATCAAACGACAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 711>:

gnm_711

5 CAGTTGGCATTGTTAGATAATTTGATTACAAAATGGGCGGAACTGGTTCGAACTGGGGC
AAAAAATCACCAATGyGACTTTCAACCGAyTGGACGCAAACGGCTAATGAAGGTATTGCA
CTGACACCATCCCAAGTAGCACAACTAAAAAAGAACGCTTTAGTTTCCCTTTCTGATAAA
GCTAAAGCAGCTATTGACGCCGCCCGCGACCGCATTGCCGTGCTTGATGCnTACACGGGG
CAGGATTCCAACACACTCTATTACATGAGCGAGGAAGATGCGCTTAATATCGTCAAAGTA
ACCAACGATACATACGACCATCTCGCCAAAAACATCTACCAAACCTGTTGTTCCAAACC
10 CGTTTGCAGCCATATTTGAATCAAATCAGTTTCAAATGGAAAATGATACGTTCACTTTG
GATTTTAGTGGTCTTGTTCAAGCATTTAACCATGTCAAAGAAAGTAATCCGCAGTGGTAC
CGAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 712>:

15 **GNMIX74TR gnm_712**

TAATGCCTGTAATCCATGTCTTTAACGGCAGCTCTGGCAGAAGCGGCCACAAGTTCTTG
TTCGACCGCAAAGCGTTTACCTCCGCCATGCGATGGAATACCTGTCAGTGTCCCGCAGGC
GGATAAAATAAAACTGAAAAAAGAATAGGTATCAGCAGCCGTGCTTGCATAGATTTTCT
CCTTTGATGAAAAACAAATTGTATCAAATTTGTAATATAGTGGATTATCnGTCCGGCGTA
20 ACGCTATTGGACGGTTCCCGTCATGCCCGGAATCCAGTGAAGGAAATTGAAGTGGCCCGC
GTGTTACAATATATCGGACTGCAAAGCGGTTTCGACCACGGAGGCAGCCGTCCGTTTTATG
CTTTAGTGTATGCGGCAGCAGGTTTTTTGGGACGGCAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 713>:

25 **gnm_713**

CGTACGGCTTTCTCTAAAAATACCTAAACCGTCATTCCCACGAACCTACATCCCGTCATT
CCCACGAAAGTGGGAATCCAGGACGAAAAATCTCAAGAAACCTTTTTACCCGATAAGTTT
CCGTGCCGACAGACCTGGATTCCCGCCTGCGCGGGAATGACGAAGCTATCCATACGGAAA
CCTGCACCGCGTCATTCCCGCGAAAGTGGGAATCCAGAACGTAAAATCTCAAGAAACCGT
30 TTTCCCGATAAGTTTCCGTACCAACAAGGCTGGATTCCCGCCTGCGCGGGAATGACGAAG
CCATCCGCACGGAAACCTGCCGCGGGCATTTCGGATATCGTGGTCTGGCAGCTTGGCGG
CAGGATGCGGAAGACTTCAACGAAGCCTATTGCCGCCATGTACGCCGCAAAATGAACATA
CCGGAACATTTGGCATATTTGCCGGAGAGCCGATTATGATCAGGCAGAACGACTACGCG
CTTGAACTGTTCAACGGCGACATCGGACTGATTATGGAAGATGTCGGACGGCAGGGCAGC
35 CTTGCCCGCTATTTTGCCGATGCGGACGGATTTAAAAGGTAGCGGTAAGCTGCCTGCC
GAATTTGAACCCGCATTCGCCATGACCGTCCACAAAAGCCAAGGTTTCGGAATACCGGGAA
GTATGGCTGCTGCCGCCCTTCGCCGCACCTTCGGACGAAGGGGACGATGCATTGTCCGGA
TTGAGTAAGGAGCTGTTATATACCGCCATTACCCGCGGAGAGAGAAGTTCGTATTCTTC
GGCGGGGAAGAAGCCTTCGGCAAGCTGCCGCCACCGTCAAAACGCGTCAGACGGCATTG
40 GGCAGTATGCTCGAGCGGTATTTTACAAAGAATAATCCGCCGAATGCCGCGCCGCCGC
CCCTTATGCCTTTTTTCAAACGGTATAGGAAAGTGGTTTCCCGGGTTCGCGCAAAAGCAAG
CGGATCGCTCGGATTCGCGGCTTTTTTGTGCTTCGGCTTGGTTTTTCATCATATCGGCAAC
ACGCAAAACCCGCTGAGCAAATGCCTTATCCATGAAAATCGGATG

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 714>:

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GNMJD95TF gnm_714

CGCTGCGGCATAACCTTCCGCCTTGTCGACGGCAGTATAGGCAGCCGTGTTGACAATGGC
GTCGGGTTGGAACTTTTGACCATGTTGCAGACGGCATCGGCATCGGTAATGTCTAGGGA
TGCAGGAATCCGTCGCAATGGTTTCCAGTCTTCCGGAAGACGGTCGCGCAGGCAGCGTGC
5 CAGTTGGCTTTTCGAGCCTGTCAATAGGATTCTCATGAGGTATTCCTTTGGTAAAAGTG
TATTGTAGGACTTGCTGTCGGTATTATAGTGCCAAAATTTGCCGCCTGTCGGGCAACCA
ATAAATCGACTTTGCCAGTTTGGCGGCAGCGGTAACAGCATGCAAAGTGGTATGATTCA
ACTGTTTGTGTCGTGTTTCGACAATAATCAATACACTCATTTACGCCTCCTCAAATCACT
TTGGCTTCGTTTTTCAATTTTCAACCAATTCGGCAACGCTTGCTACTTTTACGCCTGCC
10 TGACGCGCCTTAGGTTTCGGCAAATTTACCGTTTTCAAACGAGGTGAAATGTCGGCAACC
AAATCGTCAGGAGTCAGTTTTTCAAAGGTTTTTCTTTGCCGCCATGATATTGGGGAGT
TTGACAAAGCGCGGGTTCGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 715>:

15 **GNMJE78TF gnm_715**

GGGTACTAACCGATGACTTTGACGAACGAAGCGGTTCCGCCAAGCGTTCCAATGCCGTC
TGAATCTGCGCGTACCGCGGTGTCTTCGATGTGATGAAGAACAGGTATTTCCACAAA
ACGGATTGCTCGGACGGCTCTCAGACTAGGTCATGGAATACCGACTCCGTCAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 716>:

GNMJE88TF gnm_716

AACCGCCCAAGCCATGATTGCCAAACACATCGACCGCTTCCCGCTATTGAAGTTGGACCA
GGTGATTGATTGGCAGTCGATCGAACAATACCTGAACCGTCAAAAAACCGTTACCTCCG
AGACCACCGCGGTGTCCTCCGATCGTCCACGTGGTGTCCATGTTCAAAGCCGTTCTGCTAG
25 GACAATGGCACAACCTCTCCGATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 717>:

GNMJH15TF gnm_717

CCGCATAATCGAGTGTACCCATTTCTTGCTTGCCATCGGTTTCAAACCCGCAAGACAAGG
30 GCGAACCCTCAAAGTCGCCGCTTACATCTTCTGACGCCGCCGCGACATGAATG
TCTATCTTTCAGGCTGGCAACTGATTGACGGTATGGTAAACGTCTGACGCATCGTCCAGC
ACCACTAAAGCGAATGTTGCGGCTTCGGCGGCACATTCTCCGTCAAACAAGCCGATATTT
CCGGC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 718>:

GNMJJ79TR gnm_718

GTATGGGTTTTCCGGCGCGGGGAAAACGTCAGGCATCGCGCCGTATCGAAATAACCGGAC
CCGCAGACCCAACGGCAGTCCTGAACGACGACCTCGTCCAACAAGCCAGGTCTTCTGCG
AAAGCCGGACATTGTTGAGCACATGCCGCCGAAATGGGGAATCTGCGCCGAAGGTTGCG
40 GGCACAGTACGGTGCCGGTAGCGGTTTCGCAAATAAGCCGTATCGGTATTGCTTTAGCC
TCGATATTCCGCACAGCGTGTTCCTTGGGCATAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 719>:

GNMJJ84TF gnm_719

5 ATTTTGCTCAATATTAGGAAGGTTTTAAGCAATTGAAAATTTGTTGGCGCATTTTTATGC
GTCAAATTTTCGTTAACAGACTAGTTTTGCAAAGGTCTCTATATTGTTTCGATATTTTTGAA
GACATCGATTTTTTAGGGAAACGATTGTTTACGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 720>:

GNMJM49TR gnm_720

10 CGTTAAACGACGCAGCCGGCACTGCGCATTAAAAACGTGCCGATTGTAAACGCCGCCAAT
ACCGCCAAATCGGGAATGCCGTCTGAAGCCAGCCACAATGCCAGTAGGTCGCCACAGT
AAAAGCAGCGTCCCAATGGGCTTGTCCGCCCGCATCAGGCGCAGGTACACATCCAAACGG
TCGGACAGGCGTAAAAATAAAGGGGATTTAGGATTCATATTGCCGCGCAGCTTGAAAAAA
CGGTATTTTAGCCGAGAAAACGTTTCAGTTCGGGCAGAAAATAGTCGGTAAACACGATTT
15 CGTCAACGTGCCCGCCGGCTCGGTAATGCTGCGCGTGTATCGAAAATATCCTTGATCGC
GC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 721>:

GNMJN57TR gnm_721

20 CGGCTGCTTCTATCTTTGATGCTCCACCATAAAGGTATTGCCCCGAAACCGGCGGATGGAG
GTTTTGTTTTTCTGCCGCCGCCGTGATCGCTTCGTGGTTCGCCAAACGCGCCTGTTGCA
GCCTCATTTGCGCATAATCCTGCTCCAAGGCGATTTCTGTATTTTCGCCTTATCCAAAG
CTGTGATATTGAGCCTGTACTGGTTTTGCTGCATCACAACGGCAAAGCGGCAACGCACA
CCGCATCCAGCAGAAGGAAATTCACTTTGTTCAT

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 722>:

GNMJO71TR gnm_722

30 CCCATACTATATGTCTTAAGTGAGGAATACATGGTTCATTGATGAACCCAAATTTGACCC
TTGTAGCAGATGCTGTGTCAGTGCCCCACCCATATGTTCTTTGCCTGTGACACAACGATACA
GCCCTTGTCGGTACGAATATCGTCTATGCCGCCATCCCAACTTCGGCGGTATGGCGGGG
CGCAACCGCAAAGTTCGGATTCCGCAACGGGAATTTTGACGCTGACGGACGACGACAAA
CAGGCTTTGATGGACGATGTGCAGGATTATTTTTTCGGGTCTGATACCGTGAATTTATAAA
ACCCTCAAAAACGCGCTTTTTAGCGCGTTTTTTATGCGGGTAATACAAACCCCTGCCCA
AGATATAAAAATCAATCCTAGACGCTTCGAAAAGCCCTGAAAACGATTAATTGTGTAT
35 CGCGCGGACAGGTTTTAAAAAATGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 723>:

GNMJQ51TF gnm_723

40 GCTTCATCGTCTTCATCCCAATCTGACCCCAAACATTTCGCCTTTTGGTTTGACGTGATGA
CAGGTAAACATACCTTTAATTCGGTCTTCACGGGCTTGGTTCGGGCTGTATTTCGACGTTG

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AAAAAGTCATTTGCGATGTCAACGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 724>:**gnm_724**

5 CAATCCGTTAGCGAGGTGCCGCCGGCTTCCATTCAAGTCGAGGTGGCCCGGCTCCATGCA
CCGCGACGCAACGCGGGGAGGCAGACAAGGTATAGGGCGGCGCTACAATCCATGCCAAC
CCGTTCCATGTGCTCGCCGAGGCGCATAAATCGCCGTGACGATCAGCGGTCCAATGATC
GAAGTTAGGCTGGTAAGAGCCGCGAGCGATCCTTGAAGCTGTCCCTGATGGTCGTATCT
10 ACCTGCCTGGACAGCATGGCCTGCAACGCGGGCATCCCGATGCCGCCGGAAGCGAGAAGA
ATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 725>:**GNMJV83TR gnm_725**

15 TTTAAATGGAATTTGAACCTTTATCTCACTGTTGTTAAACGCCGTTTCGTACCCCTTT
AAATACAGCTCAAAATGCGCTTTGGGAATGCCGTCAAACTTGCGTAAATGACGTTTTGCC
CGGTTCCAAAAGTTCTCAATCCATTGATATGGTTTTGTCGTTCAAGCAAAATAACTTTCA
TCTGCTTCTACTTCGCCATCAACATTTCCAAATGCGGACTGTTTTGATAAATAAGTAAT
CGTAAACGATGAAAATAATAGGCTGCGGTACTTTTATTAACGCCTACTAACTCTGCTGTC
20 GTTCTTGCAAGTTACACCTGCGACAAACAGTTCAATGAGTTTATTTGTTTATACCGGCTTA
GACGACTTTTTCTCATAGGGGCAACTCTAACTTAATTTGAATTTCCCTAGTTATCCCTAA
AGGGGGGAAACCCAAAAGGGGGCCCCCCCCCCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 726>:**GNMJW65TF gnm_726**

25 CGAATTTGTCGGCGGCGCGCGCAAAATCATACTTTGCAAAATTTAACAATTTGCAGGG
GCAGAAAACAGGAAGCTTTCTTTTTCGTCGGAAAATCCTTATTTACCGCCTTGTAGCC
GGAGCCGGTCAAAAGGCAAAAATTTACCGTTTTTTATCGGTAAAGAATTATCAGATAA
AACAAATATTATAGGAAAAATACGACAGGCGGTTTTATCGCGCATTGCCTGAAACTGAA
AAATACAACCGTTGTCAAGACTGGAGAAAATGCCAAAATCCACTATATTGTCTGCCTTA
30 ATTTATTTGAAAAGACTGTGTCTTGAATATCAAGAGTGGAAGAGGAAGCGATGAATACAC
CGACTGATTTGAAAGTAACCAACGAGACGGAAGATTAGAAGCCATTGATTTGGATAAGA
TTCACCGTGTGCTCACTTGGGCGGCGGACGGATTGGAAAATGTTCCGTGTGCGAGGTGCG
AGTTGAAATCGCACATCCAGTTCTACAACGGCATCCGCACCGACGACATCCACGAnACCA
TCATCAAAGCCGCTGCCGATTTAATTTCCGGAAGATACCCGGACGGTGATGCTGCCAACT
35 TACTGATTTAGTGATGATGGTGTGTTTTGAGGTGCTCCAGTGGCTTCTGTTTCTATCAGC
TGTCCTCCTGTTTCAGCTACTGACGGnGTGGTGCGTAACGGCAAAAGCACCGCCGGACAT
CAGCGCTATCTCTGCTCTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 727>:**GNMJY95TF gnm_727**

40 CTAGAGATCCCTGGAAAAACACACAGCCGGCACACAGACTATCTCGCTACCGCGACGCG
ATTGCCAACAACTGCTGGAAAGTCCGTTTCGCCACTCGGCAAAATCGACAGCCTCAGCAGC
AGCCTGCGCGGGAAAGTAGAAAACATCCGCAGACTCGAACGCGAAATCCGCGACATCTGC

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CTCGACCGCGTCCATATGGGACGCGACTACTTCATCCAAAACCTTCCTGCCCGAAATCACC
AATCTAGAATGGATTGAAGAAGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 728>:

5 **GNMKA52TF gnm_728**

GGTCAGCCCCGCAAGGGTCGAATATCTGATCGATATGCCGATGGAACGTTCGAGAAAGGC
GGAGGGCGGCGTTTTGTATGTCGGCGACATCGCCAGTACAGCCGCAACATCCAAGCCGG
TATTGCCTTTATTGTCTGGAAAGGCGGAACACCGCCGCTCAGGGTGGTCGCATCGGGCAG
10 CAGGGCGGCAGGTTTCAGACCGCATGTCCTGCGAGAAAGGTGGCATGATTGCTGTGGCAT
CGGTCTGTCCTATTCCGCCGCTGCGTATGCAGCATGAAGACATTCCCTTCCTGATACAGG
GGATTGCCTGCAATGTGGCGGAAAGCCAAAAGATTGCGCCTGCCTCATTGAGTGAATAGG
CACTTGTCGCATTGCACACGTTCAATGGCTGGCGTTCTATTGACCAACTGCAAAGCGTC
GTTGCAACGCTGTGTGTTG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 729>:

gnm_729

CATTTCCATACCTATGAAATCAATAGCAGGATTTAAGTTCAAGTTCAGCTCCAGATCTTC
TAAGCTGGAGGACAAAAAGGCGAAAAGATATGTACTGGTTTCGCCTCTGTTTGCTTCTT
GCTGATCAAGAACCTCCCCGATGTATTCGCAACAAATGTGCCACGCAGTATATGTTTAC
20 AAGCTCGCAATCCCCATCCCTGTTGATCAATCAGTTGGATATTGGAATTGAATCAAGACA
AATGGGTTAAAGACAATAACTCAAAAAGGATCACACCTTGCTTTTCAGTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 730>:

gnm_730

25 AAGGGGATACTAGAGCATACTCAGTGaAGAAGCAAAGAAAATCAACAGGTTTCAGTAGAA
AAAAATCGAAACTGGGATCGTAAGTTTACCAGGAATTGACGAAACCCGGAATCTCGTTA
CTCTCTTCGAAAGCCCCAAACACGAAACAGTCTTGTCAGTTGCTCAAGCTCCGTGTTTCC
TGAGAAAAAACCCATAACCTAATCAACAACCAATTGTTAAAAATCCATCTTTATGAGAA
ACAAAGAGAAGCTAAATCAGAGAGGAAAGTTGGTTCATACCTCTGAGTCTGACCAGAGAC
30 GACGGTAGCAAAAACGGAAATTTGATGCGAGAAAGCCGAGAGGGTTTTCTTATTTATTT
TTTAGTCCTTTAAACCGACCTTTGACAAAAAAAACGACTTTGTGAAAACGGGCCGTT
CATATTGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 731>:

35 **GNMKV51TF gnm_731**

TCGTGGTCGAACCTACATCATCCGCCATGACGTTCCGATCGGTGAACGCAGCAACTACC
ACCTCTCCAGACATATGAACTTTATACGGCTTGGGCGGCTGCGGAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 732>:

-833-

GNMKY49TF gnm_732

5 CAAAATCGAAGGCGGGTTTGTCTGTACTCGGCGTAACGCATAGCGACACAGAAAAAGA
TGCACGCTATATCGCCGACAAAATCGCCCATTTGCGCGTGTGAAGACGAAGCGGGCAA
GCTGAACCTGTCTTTGAAAGATGTCGGCGGCGCGGTGCTGCTGGTGTGCGAGTTTACGCT
10 TTATGCCGACGCGGCAAGCGGGCGGCGGCTTCGTTTTCCCAAGCCGCACCTGCAGAACA
GGCGCAGCAGCTTTACCTGCGAACGGCGGAACGTTGCGCGGACACGGGATTCATGTCTGA
AACAGGGCGTTTCCGCACGCATATGCATGTCTTAACGTGCTGAAGCACCAGTGAATCG
GTTCCGTACTATCTGTACTGTCTGCGGCTTCGTGCGCTTGCCTGATTTTTGTAAATCCA
CTATAAAGACCGTTGGGCATCTGCAGCCGTCATTCCGCGCAGGCGGGAATCTAGTCTGT
15 TCGGTTTCAGTTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 733>:

gnm_733

15 TATGCTTGGGACAATAGCGGAAAAACACCGCCTTTCGCTTCGGCAAAACGGGAAAACCGCA
AGGCGATGTCTGATACGGATTTCGGTTTCTGCTCGTGCGGCAAAACGATGTTTCAGCCCCA
CCGAAACCGACTTCCCTGCAAACGCGCCCTTGTGTTGCGCCTCCATAATCCCCGGCCCGC
CGCCCCGAAATGACGGCAATGCCGAATCCGACAGCCGCGCGCCAGACGGCAGGCGAACG
CATAATCCGCATGATTCTGCGGCGTGCGCGCTGCCGAAGATACTGACTGCCGGAACA
20 CGCCCCGCAATGCTTCGTCTGCCTGCCTGCGTTTCGGCATCATAACGTGCCTGCTCCGGCA
CACGGTTTGTATTCTCCATTCCATCTCCGTTCAAAAACAGCGATTGTACACCGTCAAAA
ACGTATAGTGGATTAACAAAATCAGGACAAGGCGACGAAGCCGACAGTACAAATAG
TACGGAACCGATTCACTTGGTGCTTCAGCACCTTAGAGAATCGTTCTCTTTGAGCTAAGG
CGAGGCAACGCCGTACTGGTTTTTTGTTAATCCACTATCATATAGATTTTTATGCCATTTG
25 GTCAGAAACAGCGAAGACAGGCAAGGAAACGCCTTCAGTTCATCGCGTCTTCAAAATCA
TCCCAAACATCGCTCAAATTCTGTTTGGATATGCCGTATCCCGTCCGGCAAACATCACG
GTCTTTTTGCTTTTGGCGGCTTTTTTGAATGCCTTTCTGTTTTTTCGGGTATCTGCTGC
CATCTCAACTGACGGTACACGTCGTAGCCGTCGCCCCAAAAAGAGGCATACCGTTGCGTG
TCTTCGCCGACCAGCGGCGGCTATTCCCAACCCGTACATATCCCGTCGGCAGCAGCGCA
30 CTTGCCTTATATATGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 734>:

GNMLC88TV gnm_734

35 AACTACACAACCACGATTTAGCGAAAGGTATAAAAAATGCGGGTCAGAATTTAACATCAA
TGCAAACGCTTGATGAGCATAATAAACCATTTGATGACTGCGCATTTAAACGAGATACAC
TTAATGTTACATTATCTCGTCAAACACTAATCAGTATTATTCAGTCTTATGTACAACAAG
ACAGCATTTATTTAAACATGGCGTAACATAAATAGATAATAGTAATTTAAAAGTCATTC
TTCATTTTCATGGAACAAGAAAGTGAAGCCTTTGATTATGTATTGGTGCAGATGGCATAAC
ATTCAATTGTTAGAGAAGCTATTGATAGCCAAAGCAAGGTTCAATATCAAGGCTATACAT
40 GCTTCCGTGGGCTAGTCGATGATATTCATTTAGATGAAACGGATGTAGCTAAAGAATTTT
GGGGCAAACAAGGACGCGTTGGTATTGTGCCATTAAATTGATAACCAAGCATATTGGTTTA
TCATAATCAACGCTAAAGAAAAAGATGTCAAATACCAATCATTTGGTAAGCCACATTTAC
AAGCAGGATTTAATCATTATCCCAATATTGTAAGACAAATATTAGATAAACAAGTGAAA
CAGGCATTATATTAAACGATATTATGATATGAAACCACTAAAATCTTCGTAAAGAGC
GTACTATTT
45

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 735>:

-834-

GNMLC88TH gnm_735

ATATGAGCGTCGGAGTTATAACGAAAGACATTTATACAAAAGAAGACGAAAAGATCTTAG
TTAATACAGGTGTCTTACCTGAAGATAGAATTATTGGTGTAGAAACAGGTGGTTGCCCTC
ATACAGCAATTCGTGAAGATGCTTCTATGAACTTTGCTGCTATTGATGAGTTATTAGAAC
5 GTAATGATGATATTGAACTTATCTTTATTGAATCTGGTGGCGACAACCTAGCAGCTACAT
TCAGTCCTGAACTTGTAGATTTTTCAATCTATATTATCGACGTTGCTCAAGGTGAAAAAA
TCCCTCGTAAAGGTGGACAAGGTATGATTAAATCAGACTTTTTCATCATCAATAAACCGG
ATTTAGCACCACATGTTGGCGCATCGTTAGAACAAATGGCTGAAGATACAAAAGTATTTA
GAGGCGACAGACCATTCGCGTTTACTAACTTAAAAACAGATGAAGGTCTTGATGAAGTGA
10 TTAAGTGGATTGAACGAGATACTTTACTTAAAGGATTATCATAATGTCTCAACAAGCTTG
GACAGGTCAACTTGATTTAACCGTATTTAATAATGGAAGTCGTTCCGTTGCACGTGATAT
CTTTTTTGAAAAGCATTAAAAGTTAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 736>:

GNMLC90TH gnm_736

AACAATCATTATGAACCCAAACCCCTTCCGTTTCCGCCTGACTGCCCTTGACGAAGTACG
TATGCCAATCGGCGACGGTCAAATTGTAAGCTTTGACCGGCTGCTGTTGAAGGTAATGT
TCTGAACC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 737>:

GNMLD05TH gnm_737

GTACGGCGTTACCAACCTGCTGCTGCTGGGCAATTTTGCTGCCGCACAAAATAAAATTAT
CAGGGAAAGATTGTAAGGCAGCTAATTCACTAACGGTTAACGCCCCGATTCTGTTCATATT
GAAAAACTTTGCGCATATCTCCTGTAATACAAACGGCTGGTTTTGTTGCTGTTGTCACGG
25 ATGTATTTACGGATATCACCTGTTTTTCGGACGTAATGGTTCATGAATATCGTTACGGTTA
CCTCCATTTTAAACAAATGCCATTTTTTCTAACATTTGTGCCGAATGATTCATATCTTCA
TGATTTGCAACGTGTGGATTGCTTTCGCCATCATCCAGTTTTGGAAAATGTCCTATTGCT
GATCCAACAGTCTGATGGGAAATCTGCAATGTTGAGGAAATGAAATTTTGCCTTTATCC
CTCCTCCCGATAAATATCACTCGGCTACTTATCTTAGGAACACCGAAATCGGCTGCACTC

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 738>:

GNMLE03TH gnm_738

TCGACATTGCCAACAGCGTCCCGGGTGTTCGGATAATATGACGGACAACGGCAGAACCG
ATAAAGCCCCGCGCTACTGGCAACAAGTGCCGTCTGAACAGCACGAAGCCTTCCGTTTCC
35 ACCATATTTCCACCGATGAAGTCTATGGCGATTTAGGCGGCACGGACGAGTTGTTACCG
AAACCGCGCCCTACGCGCCGTCCAGCCCCCTACTCTGCCTCTAAAGCGTCCAGCGACCACC
TCGTCCGCGCGTGGTTGCGTACTTACGGCTTGCCGACCATTGTAACCAACTGCTCCAACA
ACTACGGTCCTTACCATTTTCCGGAATACTCATTCTTTGATGATTCTGAACGCGCTTG
ACGGCAAACCGCTGCCTGTGTACGGCGACGGTATGCAATCCGCGACTGGCTGTTGTGCG
40 AAGACCACGCGCGCGCACTGTATCAGGTTGTTACCGAAGGTGTTGTGCGCGAAACCTACA
ATATCGGCGGCCACAAATGAAAAAGCCAATATTGAAGTCGTCAAAACCATCTGCGCCCTGC
TGGAAGAACTCGCTCCCGAAAAACCGCCGGTGTGGCGCGTTATGAAGATTTGATTACTT
TCGTACAAGACCGCCCCGGCCATGACGTACGCTACGCCGTGACGCGAGCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 739>:

GNMMC45TR gnm_739

5 CGCGGGAATGACGAATCCATCCGTACGGTAACCTGCACCACGTCATTCCCACGAACCTGC
ATCCCGTCATTCCCACGAAAGTGGGAATCTAGCTTTTGGAGTTTCAGTCATTTCGATAA
ATTGCCTTAGCATTGCATGTCTAGATTCCCGCTGCGCGGAATGACGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 740>:

GNMMC79TR gnm_740

10 GCGGCAGACAAGAATGGCTCGAGGCGTTGCGACAGGCCCTGCTTGCATCTAAAATCATT
CCTACGCACACGGCTTTATGCTGATCCGCGCAGCGCCGAAAGCTACGGCTGGGATTGG
CCTACGGCACCCTGCGCTGCTGTGGCGCAGGGGTGCATCATTCGCAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 741>:

15 **GNMMD20TF gnm_741**

ATCCCCGAGGAATCTAGGTCTGTCTAGTGCAGGAACTTATCAGGTAAAACGGTTTCTTGAG
ATTTTGCCTCTGGATTCCCACTTTCGTGGGAATGACGCGATTAGAGTTTCAAAATTTAT
TCTAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 742>:

GNMMD36TF gnm_742

ATCCCCAAAATTTTTTTGAGTTTCTCAAAAGCGATATGATTAGACTGTTGAGAGGTGAAA
GTAAAACAACAGACTTTCAATGGCCGCAATTTGATGAATAGCAGCAAGCTGTAGCCTGCA
TGAAACCTAAAATCCATGCGTAAGGTGTGTGCTTCAGCACGCACGCGTTCCATGATTAC
25 GGCTCAATGCCGTCTGAAAAGCTCACATTTTTTCAGACGGCATTGTTATCTAAGCCAGT
ATTCAGCTTCACTATATACCGGCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 743>:

GNMMG74TF gnm_743

30 GCCAACCTTTATCGTAAACATATTCAACTGATAGTTCCCGAACTCTCGATATCCGAAC
TAAAAAGAAGAAGAGCAGAGTAAGAGGCAATAGAGGAACAAGTAAGAACAAAAATAGCA
AAATTTTCAACTTAGTTAACAATAGTTACCTCTCCTTTAAATTCAATCCTGAAAGGTACC
CCTTACCCGGGGCAACCAATTATAGTTCCCATATTTCAAAATATGGTTTTAACATTACTT
TTTTCCCCCCCCAAGGGAATGCATTTTAAATCAGGCTTTTCAGGTGCAAACCGATACTT
35 ACCATTACCATCTTTAACACAGATATATTTCCAGGTATAGCCCAACGTGAAAAATCGGA
GTATTATATACAGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 744>:

-836-

GNMMH29TR gnm_744

CGTATCGACATTTCCATTAATCTCGGATTCGCTCGCGGGACAGAGCAGTGACGATGGAGG
AGCGAGCCAGATGCGCATCGTCGCCAACAGATCTGCAACAACTGCGATCGACCAAACGCG
ATTTGTCTCCGCCACGTATACCGGCTGATCCAATTCCGAAGAATACAGAGAGCATCATC
5 CTCCACCATCCGCACGAGTATAAAGCTTGTGCTAAGGAAGGAACCATTTGGGAGGATATGT
AACTACGGCGCTTAGGAGCCATTGAACCTGACGGTGAATAAATCGAGAGGAAGCTTATTA
GTGTTTAGAAAGAGATGGTGAGGTTCCAATCTAACTCAATTGATGGGTAAATTTGTTGTT
TCTATTCCGAAGAAA

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 745>:

GNMMH29TF gnm_745

GCGAAAGAACAGAAGTCATTGATGAGAACAGGTTTGTGCGGTGTTAAAATAAACGAATTT
TATGTAATAAATACTGGTATCTACATAGAGTATTATAAAACATGCGTGTGATTAATCTAC
GTAGGTAAGCAGCAAATTCAGTCAAAAGAAGAAACATCATCGACCATCTCTAGTGAATTA
15 CTGAAAACCTGAAGAAATTATCTCATCCCGAGTCAAAGTGAACCGTGGACTGTACTTGCT
CATAAGAAGCCTCAGAAGGACTGGAAAGCTTACAACCCAAAGACAATGAGACCTCCCCCT
CTACCAGAGGGTACCAAATGTGTGAAAGTTATGACTTGAATGTTAATGGACTGAGAGGA
TTGTTGAAGTTTGAGAGCTTCTCTGCTCTGCAGCTTGCCCAAAGAGAAAATTTGACATC
TTGTGCTTGCAGGAGACTAACTCCAGGTCATACTTTAGACCTTCTTAAGTTGTTTCT
20 GCTCTATATTTTAAACACAGCCAATCTAGAAATCTCTTGTACTAAAGACATACGCAnACT
TATGACAGGTGAAAGATGTTGAGGAAATTAAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 746>:

GNMMH47TFB gnm_746

TTGCTGTTCAAGCTGTTTTTCAAGATTCTCGTAATATTCGTACATATAATAAGGGTCTTT
GTACGGTTTTGAATGCGGTCTGTTTCATGAATGGCTTGAGCTTTCAAAAAGGCGCAGTCGTA
CGCTTCGGGAGCCAAAGACTTGGTCAGCTTGTGATGACTCTGCTCAATCAGTTCAAACAG
TTTGGCTTTGTCCAATTCGGGAAAAATGAATTTAGACCGTTTGCCGCACGTCCGAACGT
TTTTTTTACCCATTACAGTATCTGTGCGCTGAAATCGACTTATCTTCCTTA

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 747>:

GNMNA66TR gnm_747

GGTAATGATGAATGATAGTTTTACAAAAGTTTCGGACTACAATTTATACGTTTATAATAA
TAACAATATCCATCAAAAAAATGTGATTTTTCTTTTTTAAAAGTTGCATCTTGCCATTCT
35 TTGTAATCACATTTCGTAATATTCAGCATTTTTCAAATCTGAATCAAATAGATATTGAGGT
AAAACATTCCCTTCCTTATCTAGTTCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 748>:

GNMND11TR gnm_748

GGCGCGGGACCCATGCTTTGGATGCGGTACAGCCGTGCGGTTATGTTTTGGGGTTCGGAT
ACGACCAGCTGAGGGGAAATGGGGCGCAAACATTATGCTGACCTATTCCAAAGGGAAAA
40 ACCCTGACGAGCTTGCTTATCTGGCAGGCGATCAAAAACGATATTCGACAAAAAGAGCGT

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CGTCTTCTTGGTCGACGGCAGACGTTTCCGCCTATCTGAATCTGAAAAACGGCTGACCT
 TGAGGGCGGTATCTACAATATCGGCAACTACCGCTACGTTACTTGGGAATCCTTGCGCC
 AGACTGCGGAAAGCACGGCAAACCGGCACGGCGGCGACAGCAACTATGGAAGGTATGCCG
 CACCGGGCAGGAACCTTCAGTCTCGCGCTTCGAAACGGGACGTTGTCCGAGTGGAGCAT
 5 ATGGACGGCATAATCGTTTAAAACGGTTTGGnGAAAGTGTGAAACCAATACGTCGCAAGG
 TAnCAGCAAGCTGTCGCGTTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 749>:

GNMNE46TF gnm_749

10 TATCTGAAAGTCCGAGATTCTACATTCCCGCTTTCGCGGGAATGACGAAAAGTGGTGGGA
 ATGACGGTTCAGTTGCTACGGTTACTGTCAGGTTTCGTTATGTTGGAATTCAGGAAAC
 TTATGAATCGTCATTCCCGCGCAGGCGGGAATCTGGTATTTCATGCCTCAAGAATTTAT
 CGGAACAAACAAAACCCCTCCGCCGTCATTCCACGAAAGTGGGAATCTAGAAATGAAA
 TGCAACATGAATTTATCGGAAATGACCGAACTGAACGGACTGGATTCCCGCTTTGCGG
 15 GAATGACGGGATTTTAGGTTCTGATTTTGGTTTCTGTTTTGAGGGAATGACGGGATG
 TAGGTTTTCTTAAGCCTGCGTCCTAGATTCCCGCTTTTGGCGGAATGACGGGATGTGGGT
 TCGTGGGAATGACGTTGTGCAAGTTTCCGTGCGGATGGATTTCGTATTACGCGCACGCG
 GGAATCCAGACCTTATTGCAACAGCATTATTCAAACATTATCTGA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 750>:

GNMNE50TF gnm_750

CCCTGCAATAAAAAGATTCCGTTTTTCAAATAATATTCGAAACTCTGGCGTTTTTTTCCA
 CTGTCGAAACTCCAATAGACTTTTTGCGGAAGACCGTCCGCATCATAGCCGACCACAAGA
 CTGTTGCGCTTCATCCCTCGGGGCATCACTTCCCGCATCTCTGATAATCCACAGAATTG
 25 CGCGAGTCCGACGCAGTTCGGTTGCTCTCTTTGCGGAAGTCGCAAACCTTCTGCTCGTCA
 TTCGCGACATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 751>:

GNMNE80TR gnm_751

30 CAGGTCAAAAACCTTATTGCGTCTGGCTTTCGAAATCATGCTCCAGCAAACGCAAGTCG
 CCACCGTGTTGGACTACTATCCGCGCTTCTTAGAAAAATTCCCGACCGTTCAGACGCTTG
 CCGCCGCGCGCAAGACGAAGTGTTGTCGTTGTGGGCGGGCTTGGGCTATTACAGCCGCG
 CGCGCAACCTGCACAAAGCCGCGCAACAAGTCGTCAGGCAATTCCGGCGGCACGTTTCCGT
 CGGAGCGCAAAGACTTGGAACCCCTCTGCGGCGTAGGCAGAAGCACCGCCGCCCATTT
 35 GCGCCTTCTCCTTCAACCGCCGCGAAACCATTTGGACGGCAACGTCAAACGCCGGTAGC
 GTCCAAGGCGTAGTCGTCCAAATGACGGCAAACGCTTGCCTTCGAAACCAGCCAAACCG
 AATGCGGCGGCAAGCGCGGAGTGCTTTAAACAGATAGGCAACGTCAATCGCGGGCGAG
 ATTTTGTCTTTGTATTCCACTTCCGCTTCGGCCAGCGAAGAACCGCAGTCCAAGCAGAAT
 TGAACCGGTTTCGCACCCCGGTAGAGATAGCCGGATTGTAGATTTCGCCGAGCATACGC
 40 ACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 752>:

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GNMNK53TFC gnm_752

5 GTCGACTCATAGAGGATCCACGAATCTAGACCTTAGAACAACAGCAATATTCAAAGATTG
GCGGATTGCGATTTGAAGTGCACTTTCCCTAACAGAAAAAGGCCAGTATGCGGTAGCAT
ACGGCCTTTCTGCAAGAAAGATTGCCATGAGCTACACGCAACTGACCCAAGGCGAACGA
10 TACCACATCCAATACCTGTCCCGCCACTGCACCGTCACCGAAATCGCCAAACAGCTGAAC
CGCCACAAAAGCACCATCAGCCGCGAAATCAGACGGCACCACCAAGGGCAGCAATAC
AGCGCCGAAAAAGCCCAGCGGCAAAGCCAGACTATCAAACAGCGTAAGCGACAACCTAT
AAGCTCGATTGCGAGCTGATTAGCACATCGACCCCTTATCCGCGCAAACCTCAGTCCC
15 GAACAAGTATGCGCCTACCTGCGCAAACACCACCAGATCACGCTCCACCACAGCACCATT
TACCGCTACCTTCGCCAAGACAAAAGCAACGGCAGCACGTTGTGGCAACATCTCAGAATA
TGCAGCAAACCTACCGCAAACGCTACGGCAGCACATGGACCAGAGGCAAAGTACCCAAC
CGTGTGCGCATAGAAAACCGACCCGCTATCGTCGACCAGAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 753>:

GNMNL81TF gnm_753

15 GCGGGAATGACGGCAAAGTGGCGGGAATGACAGATCGGGCATTTCCTTAAATTACCCGTGT
ATCGCTGTAAATCTTACAGATGGCGGCATATAGTGGATATCCGCAAATCGGCGCGGAAA
CAGGGGTAAACAAAATCCACCTCAACGTCCACGTCAACCACGACCGTGCCGACGCGCACC
20 GCCTGTATTTCAAACCGGTTTTGAAATCTGCGCATACCACTTCCGTTGCGACCCCAAAT
GAAAACCCCCCTCCCATCTGCACCTGTGCGCACTCGCCGCTGCACCTTTCCGGACA
AGGCGGCAGCAGGGTTTACGGCGAAATCAAAGCCCGAGACCTTTGCGTTACCGCTCCTAT
CCTGCTTTCTGCTTCTGTCTTGCCTGCTCTCGTTGAGCCAAGCGTTCTTGCAAGCTCGC
TTGCACGTTGGCAAGCATTGCACTCTATCCGCTTTCTTTTCTGTTGCGCTGGTGGTTC
25 AGGCTCGCGTTGTACGCTTTGCACTAAAGCGCACCGTGAATCGATGCTCGCTATTTATTC
TATCAATATTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 754>:

GNMNN48TR gnm_754

30 TTGGGAAGTTGTCCGTGTCGGACACGTTTTTGTGTCTGACCGTTATGTAGAAGGGCAAAAA
TGATAATGACGCCCCCGTTGCGTTTTGGAGAAGAGGTAAAGGCAGAAAGCATATGCCGT
CTGAATGATATTTAGACGGCATTTTATATTGCGGCGGCACTCAGTCCGTGTCGCTTTCA
GGCAACTCTGCCGAACCCATGCGTTTGTAGCACGATATTGGTTTTGTTGCGGAGCCGTTTG
CTTTTCGGATGGTCGGCGTAGTAGAGCGGGGCGGGACGCGCGCCGTAGTTTTGCCGCC
35 GTTCAAAAAGCCAATTCGGGCCACCCCGGCGCGCCTATGGGTATGGCGGAAATGGCGGAA
ACATTGTGGACGAAATTCCTCAATCACAACCCCGCCAACCCCAAATCTACAACCGCGAC
CGCTTCGTCCTCTCCAACGGCCACGCGTCTATGCTGTTGTACAGCCTGCTGCACCTGACC
GGCTACAACCTAAGCATTGAAGACTTGAAAAACTTCCGCCAACTGCACAGCAAAACCCCC
GGCCATCCCGAATACGGCTACACCGACGGCGTGGAAACACGACCGGCCCGTTGGGGCAA
40 GGGATTGCCAACGCGGTGGGTATGGCATTGGCAGAAAAAATCCTTGCCGCCGAATTTAAT
AAAGACGGTTTGAACATCGTCGATCATTACACCTACGTCTTTATGGGCGACGGCTGTCTG
ATGGAAGGCGTATCGCACGAAGCCTGTTGCTCGCCGGCAACTTGGGCTTGGGCAAACTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 755>:

GNMNNQ41TR gnm_755

45 AAAAGCGGGAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGATCCCCCGGGCTGC

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AGGAATTCGGCAGGAGAAGGGACTTATTACATTGGTACAGACATATTTATGCTTTCTTCC
ATCACCAACCACTAAACCCCTTTGGAGGAATGAAATAACTGCATAAACTAGTCAACTGAA
CACTGGGCCACTTACCTCAATGTTATACAAAGTCCTGGATGATTTGATTCTGAACCACAG
5 CCTTTCAGGAGTTGGGGGAATCAGATTTGCTCATGAAGACATCCCTTTCCACTTTTGTC
ATGGGCAGTAAATACTATAGTTTACAATGCCTACCAATTAGCAAAGGATCATTCAATTCAG
CTACTCAGTTCTCTGTAAAACAGGTCTATGTATGTGCAATTCAGCTAAGATC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 756>:

GNMNQ41TF gnm_756

10 TACGACTCACTATAGGGCGAATTGGGTACCGGGCCCCCTCGAGTTTTTTTTTTTTTTT
TTTTTCTGTATTGAACTTTATTACAAAATTATAAAGCAGAGCTCTGTAACAAAATAAT
ACACATTTGGGTTTGCTTTAACCTCCAAGTAAGTCTGAGAAAATCTTAATAAAAGCCACT
TGAAGTAACAATTCACATCCAAGAGATTCCACAAATTATACAATGTATATTGAGCACT
AGTTCCTGTACAGCTTATTCTTATTAGTTTGGATCCAACCTATTCCAATGTATTATGAACC
15 AGTCAGCTATCTGTCTTTTGAACAAGTCTTAACTGAAATCTCAGAGTAATCAGCAAAAG
CTACGGAATAATTCTAAGAATTAGATGTTCCATATCATTAACCAAGGATCCATGAGG
GGCAGAAGGGAGGATTCAAAGATTTAAAAAAATCAAATTTTAGACCTTGGTTAAATATT
AACTGGAATGGGATCTTGAACCTCCAACCTTTAATTTGGTGTATAAAAATG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 757>:

gnm_757

TGTTTCCCTCTTGACAACGGACGTTAGCACCCGCTGTCTGTCTCCCGAGGAACCACTTGA
TGGTATTCTTAGTTTGCCATGGGTTGGTAAGTTGCAATAACCCCTAGCCATAACAGTGC
TTTACCCCATCAGTGTCTTGCTCGAGGCACTACCTAAATAGTTTTGGGGAGAACCAGCT
25 ATCTCCGAGTTTGTTAGCCTTTCACCCCTATCCACAGCTCATCCCCGCATTTTGCAACA
TGCGTGGGTTCCGGTCTCCAGTACCTGTACGGCACCTTCAACCTGGCCATGGATAGATC
ACTCGGTTTCGGGTCTACACCCAGCAACTCATCGCCCTATTAAGACTCGGTTCCCTACG
CCTCCCTATTTCGGTTAAGCTCGCT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 758>:

GNMNR06TF gnm_758

GCTCGGCTCATGGAACGAAATACATCGTATCTGCACTCAAATATCGCCCCGATTCTTTT
GCCTCGATGGTCCGTCAGGAGGCATTGTCCGCTACACTCAAAGCTCCATCGTACAGCAA
AAGACAGCTCACGCCTATCTCTTTGTGGCCCGCGTGGGGTGGGAAAGACCTCTTGTCGA
35 CGCATCTTCGCCCGTGCCATCAACTGTCTGGAGCGGTTGCCGGATGGAGAAGCTTGTGGG
CGATGCGAGTCGTGCAAGGCTTTCGATGAGCAGCGATCCATGAATATATATGAACTGGAT
GCCGCTTCGAACAATTCGGTAGATGATATTCTGTCTCTTGATAGAGCAGGCCAATGTGCCG
CCACAGATCGGGAAATACAAGGTCTACATCATCTACAAGGTACAATGCTC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 759>:

GNMNR07TF gnm_759

GAATCAATGGAGAAAGTTTGATCCGATGAGATAACGGTCGTCCAATCGAAAAGTCTGAGC
CTTTCATAAATTCATCTGTCTGCTTCGCATGGAAAGTTATTACAGGTTTCAATATGCGC

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AGTGCTGTACGCAACCGGAGATTAGCAAGATAGAGCATCCTCTTATCTCCTCGAAACTG
 ACCATACGCCGGCCGACGGTTACCTCCTCAGCACCCAAGGCTGTTAGTTCGGCAGCCAAG
 ACATCCTCCAACCCATAAAGGGTCTTAGCTACCATAGTAAATTGGAGATCGTTATTCTATA
 ATAGTCCATGATTATGGAACAAAGATAATGAAATACGGCCGAGTTTATGGCTTTTTGAG
 5 ACCTGTACGGAAGTGTGTAGATTCCAGCTATCAAGGCTCGCATTCAGCCACTAACGTAC
 ATCTAAAGCTCATGATGCTACGCTCGGTTATCAAACAAGTACGAATCCATATATCAGAGA
 TTCAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 760>:

10 **GNMNR12TF gnm_760**

GTACTGCTTATAGAGATGGCTTCCTGTTTTCTGATAGCCCCTTGGATGGCAACGATACGG
 TCTTTAATGCTTCTCTGCTTGGAGCGCGTCTCTTGAGCTATTGCTACCATTATACCAAAG
 ACGAAGCGTATCGCACGCTTGGCGGCCAAACGATCTCAGCTTGCTGTGCTGCACAAGCCG
 AAGATGGTTCGTGGGTCTATGGGATGCTACCCGTGCAGTCATGGATTGATAGCTTCCATA
 15 CCGGCTACAATTTGGATGCACTGATTGCCTATCAAGAGCTAACGGGACATTTCCTTTG
 CCGAGAATATAGAGCGTGGGTGTGCTATTACTTAGAGCATTTCTTCGAGGCAGATGGTA
 TGCCCAAGTATTATCAGATCGTACTTATCCAATCGACATTCATTGTCTCTGGTCAGCTCT
 TCGTGTGCTAGCTAGACTTCATCG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 761>:

GNMNR14TF gnm_761

GGAGCGGGCGCAGTTCCCTCCCTGCGCTGGACGAAAATAGCATGAACAACCTCTCGGAAAA
 CAGCCTGAACGAAGAGAGTCGATTGCTTTGGGACGGCTCTTCGGATTGGGCAGAGGCACT
 GACCAAGAGGATCCGCCATCAGGATCGCTTCCCCTATCTGATGCTTCGTTTTATCGAGGA
 25 GATGGATCTGCTCAAGGGTATACGCTTTCGTGTCGATTGTTGGGTGAAATCGAGCTGGATTC
 TTACTCCAAAAAGGTAGGCCGGAATGGTGAGTACGATCGCACGATAACGGATCATGCCTT
 GGCATTCGGCAAGCTGTCAGACTTCCAGAATGAAGAAGAGGTAAGTAAGATGATCAGTGG
 AGAAGCGTCTTATCCCGTACGCTTCTCTCTTTGCTCCCCGCTATGCCATATACGACAA
 TAAGATAGG

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 762>:

GNMNR20TF gnm_762

GAAATACAGCCTTTTCGTTTTTACCGGTCAAAATAAAATCTTCTGAATACTGTCCCATA
 ATCATATTTGTTAATGGTCAAATATAATGAAAGAATGTTTTGAAAACCAATATGAACTGT
 35 TGCATGGGAGTTTCATTGAGCTCTTTTGTGTCAGAGCAGATTCTTAGTGTCTTCGGGAAA
 GGTCAAACCTCCGGTATATGGGCACACCAAGCAAACAGAAATTTCCCAAGTTTCCATTA
 GAGAAGTACTCCTTTTCCTCGTCAAATAGGCGAGAAATAAGAAACGATTGTCAGCTGATTC
 TTGCTTCCTGCATGATGCAGGACGCGATTGTCAGCTGATTCCTGCTTCCTGCACGATGCA
 AGACGCGATTGTCAGTTGATTCTTGCTTCCTGCACGATGCAAGACGCGATTGTCAGCTGA
 40 TTCTTGCTTCCTGCACGATGCAAGACGCGATTGTCAGCTGATTCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 763>:

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gnm_763

ATTCCAGAGTACTTAACTACGGTTTTAAATGTACCTTTTTATTTGGGTGGCACGTCTTG
TTGATTCTAGTTGTTGTAACGATGGATTTTAGTACACAAATAAATTCGTATAGGCTTACT
CAACAGTATGATAAGTTAATGACTCGTTCAGAAATGAAATCATTTTCTCGGAAATAGAAT
5 TATGGCGAAAGAAGATACTATCCAAATGCAAGGTGAAATCTTGAACTTTACCTAATGC
AACATTTAAAGTAAACTTGAGAATGACCATATTGTATTGGGTCATATTTCTGGGAAGAT
GCGGATGCATTACATTCTGATTTTCTCCGGGAGATAAGGTCACAGTAGAGCTGACACCTTA
TGATCTAACTAGGGCTCGAATCGTTTTTCAGAGCAAGATAAACCAATAAAAGGAAAAATAAA
ATGCGTGTACAACCATCTGTTAAGAAAATTTGCCGAAATTGCAAGATTATTCGTGCAAAAT
10 CGTGTAGTTTCGTGTAATTTGTACTGATCTCGGTACAAACAGCGTCAAGGTTAATGGAAT
ATTTCTTGTAATGTGATTCTGTGATATAGTGACACACTTTGCCCTAAAAAGGAAAAAATA
TGGCTCGTATTGCAGGGGTAAATATCCCTAATAACGCACACATCGTAATTGGTCTTCAGG
CTATTTACGGTATTGGTGCTACTCGTGCTAAATTGATTTGTGAGGCTGCAAAATATTGCCG
CTGATACTAAAGCCCAACATCTTTTGAGCAACAGAGCCCGTTGATAGCCACAGCTGTGTA
15 TGGTTAAATTTCTGCCCAGAATCAGAAAGAAGAGCGTACATTTTGGAGAGCAGTCGACCT
CTAAGATTTTCAGGAAGACGTTTTGTTATTGTTTCGCAAAACTTCTAACAAATGGACAC
TCCACATAATATGTCAACGTGTTCCCATTTGATTCAAATTAATAGGGTACAGTTTGGA
GAATAGGCCTATTTGAATAAAAAGTATGCTCCTTAGATTTGGGATTGTGTGTCCTCCGGG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 764>:

GNMNS04TF gnm_764

ACACTGATGTTACCGGGCATCTTGCTCCAGTTATAGGTCTCACCGAATGTGCCTGAATAG
TGGGTATGCGTCCCGTCATATCATCGTAGTAGTCATATTCGCCGGAAGCCTTCTCCGGC
CACTTGTAGTGACGCATGATTTGTCCCATGGCAGTGGCAACACAACCGGTATAAGCCTGC
25 TGCCCGGAAGGAAGCAGGGGATGCAAGGTGTTAAATGGATAGCCCTGATCCCAAGATC
GGATCCGATGCATGTTCCGCCGTTTCCAAAATAGGGGCAATGGATGATGGCAGGTCCCGT
GTAGGCTTGGCTTCACGGATAGGATCTATCGGCTCTGCCTTGCCGTCCATTACAGCAGGC
ATTTACGTTTCATAACCTTTGTGCCACCTCTGATATTGTCCGGTATACGGGCCG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 765>:

GNMNS06TF gnm_765

GAAAAGAGAGCTTCATGCGATCTCTCTGCAAACCTCAAGTAATCTGAAAACACTTAAGA
ATCAGCTCTGCGGCAAAAGACTTCAATGAAAGTCCTATAAAATAGTTGCAAATAGCTGAT
AGTTAGCGCATTGATGGGAGCAGAATCAGCTGACAATCGCGTCCTGCATCGTGCAGGGAG
35 CAAGAATCAGCTGACAATCGCGTCCTGCATCGTGCAGGGAGCAAGAATCAGCCGACAATC
GCGTCCTGCATCGTGCAGGGAGCAAGAATCAGCTGACAATCGCGTCCTGCATCGTGCAGG
GAGCAAGAATCAGCTGACAATCGCGTCCTGCATCGTGCAGGGAGCAAGAATCAGCTGACA
ATCGCGTCCTGCATCGTGCAGGAAGCAAGAATCAGCTGACAATCGCGTCCTGTATCGTGC
AGGAAGCAAGAATCAGTTGACAATCGCGTCC

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 766>:

GNMNS08TF gnm_766

CACTTTCACCTTATACATACCCCGTTAAATAAGTTAAGAGGGAAATATGAAAAGTGTAGTA
ACAAAGCAGGCCCTCATCGGCCGTCTTTCTTTAGTATAAGTATATACTCCCATGCGGCC
45 AACCTCCGGCCCAACCTACCGACACCATCGTATCCGGCAATATCGCACTTGAGGATATA

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GTGGTGACCGGTAGCCGTACAGCCGCTGTGCTTAAAGATGTACCTGTCCCCACAAAGGTG
 TTCAAGGCCAAAGATATCAAAGCTATAGCCCCATCTTCTTTTCATTGACGTACTGCAGTAT
 ATTCTTCCCGGGATCGAGTTTACCAAGCATGGTTCCAGAGATCAGCTCAATGCTCAGGGA
 TTTGACGAAAGTTCTATTCTCTCCTCGTCGATGGCGAATTGATTTCAACGGGATCTACC
 5 AGTGGAATAGACTTCGAACGAATCAATCCGGATGACATCGAGCGAATCGAAGTGCTTCGT
 GGAGCTTCCTGTGCTTTGTACGGATCTAATGCCATCGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 767>:

GNMNS13TF gnm_767

10 GAATGGAGCAAATGAAAAAGCGATTCTCTGGCAATGTCCAAATGCATCTCAATTTGGACG
 AATGCAGGAATGAGTTACTTGTACCTGTTTTAAGTGCTGAGATACAAATGCAGGTTAAAG
 AGCTGTTTTGAATTATCCATGCAAAAGTCGACAGAGGGAATATCCCTCTACTCCTCTGCTG
 AGAGCTATCTATTGGCGTGCTTAGGGATGCAAGACTTTGTAGCCAATATAGATGCTTACA
 ACGTAAAGACACTCAAAGAGAGCTTCCTTGAAGTGGACGCATTGATGCAGAGTATTATT
 15 TGCCTAAGTATGAGGATTACATCAATGCAGTATCGGCATACACTGGCGGTGTCGCTCCTC
 TTGGTGAGGTCTGCACCATTAAGACAGCAACTATACGCCAGAATGTGATATGAAGTATC
 GCTACATTGAGTTGGCTAATATTGGCAAGTCGGGCGACATTACAGGCTGTTTGTACGAAA
 ATGGTGAAGACCTGCCCACACGTGCAAGGCGTATCGTAACCCAAGGCGATGTTATTGTTT
 CATCTATAGAGGGGTCTTTGA

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 768>:

GNMNS15TF gnm_768

ATCGAGTGGTTGCAGGTGGAATACACGTTTCGCCTCTGTTCCGAATGGATTGCAGGTTG
 TCCCTGATGGTGTGTTTGGTTGCTGTTTCATGACGGGGTACGTCCTTTGGTCAGTGTGAAA
 25 CTATCGATGCCTGTTTCGATCTTGCAGAGTTGAAGGGGGCTGTCGCTCCTTGTGCCCCA
 TGACCGAATCGCTTCGCTATTATGCCACTGATGGCAATTATGCAGTGGACAGGAGTCGGT
 ACGTCACGGTACAACTCCACAGACCTTTCGGAGCGAATGGCTTCGAGAGGCCTATCGGC
 AACCTTATGAAGAGTATTTTACCGATGATTGTTTCGGTATATGAACACCATTTTGGCCGAC
 CGGTGGCATTGATTGTGCGTAATATCGAAATATCAAATTGACTACTCCTCTCGATCTAT
 30 CCCTTGCCAACTGTTATTGACATCCTAATACCTAATAAACAATAAGTTACATCTCCACAT
 TGTGGAGAATAACAAGACAACTTAATCGAAGACCTCGAAAAGGGCTAGGGCAACTAACG
 CCATGCCAAGTTTTAGAACTAAGTACTACTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 769>:

GNMNS17TF gnm_769

GGCGTTTCATCATCTCATGTGCCCTCGATGTAAGCACAGTGTATATACCACCCTGCTTAT
 TGCAAACCTCCCAGCTCGTCTCCAGCAAGAGGGAAGGGTTGGGGCGAAAATCATTTCATTC
 GATCGCAATTTCGTTTGGGAAAGTTTTTCCGGTCTTATCCTCCGACCAACCGCCATACAA
 AGGCCACGGCTACGGTCACAACGAAACCTGTGGCAAGCGGAATCAAGGCTGCCAGCAGCG
 40 TCCATTTCCGGCTCCCGTCTCTTTATATATGTTAAACAGGGTGGTGCTGCAAGGATTGT
 GGAGTAGGCAGAACAGCATGAGATTGATACCTGTCAGCATAGTCCAACCGCCGGCTTCGA
 ACAGTCGTGCCGTTTTCGGCTGTGCCATCGGCTTCGAACATGACGCCGGCACCGGTTCCCTC
 CATCTATCCCGTAGTCAGGACAGTCAGCATCAGTATCGTCGGTATCACTATTTCATTGG
 CCGGAATTGGCCAATACATAGGCCAGCAGAATGACACCGTTGAGTCCCATCAGCCAACCGG
 45 GTCCGTCCAGCAGGTCGATCAGATATTCGGCTATCCCGACTCCACCGATTTGGATGTTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 770>:

GNMNS19TF gnm_770

5 GACGGACGTATCATTTTCATAGGCCCCCTGCTAACGGAGCAGGAAGACTTACCCACCGAT
TTTGAGAATACAGTCCCTGCCATCTTGGAGGACTGGCATCGTGATGCAGCACCCCTCGCTG
GACTTGCGATATGTGTGCGGCAGCTGGCGAACTCCCGTTCTCCCCCTGTAGTACTGGTG
GACTTCGAACCCCTCCATGCACAGAAAGCAACGCTCTACTATGAGATGTGGGAGCACTTC
GGCATCCAAAGCGACAAGGGGTACGGCGACTATGACGAGGCCTCGCTCTTCGGCATTGCC
10 GCAGCCCAAACGATGCATAGCCTGTGTGAATACCTCTGCCCCGAAGACCAACCGGCCATA
GGTATATTCAACGAATGGATGCTCGGCATGGGACTCCTCTACAGCAAGCGGAAACACCT
CGTCTGAAAACCCCTTTTCCTCACACATGCCACCACAGGGCGGTCTATCGCCGGCAAT
AACAAAGCTCTGTATGCCTACATGCCGGGCTACAACGGCGATCAAATGGCTGCCGAACTC
GGTGTAGAAGCCAAACACGGGATAGAAAAAGCGGGCTCACCAATCGGACACC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 771>:

GNMNS23TF gnm_771

GACTTCACGGTTGTTTTCGAAGAAACGCCTAACGGAATAAATAAGGGCGGAGCAAGATTC
GGTCTTTCCACGGAAGCCAATGGCGCCAAACCTCAAAGTGTATGGATCGAGCGTACGGTA
GATTTGCCTGCAGGCACGAAGTATGTTGCTTTCCGTCCTACAATTGCTCGGATTTGAAC
20 TACATTCTTTGGATGATATTCAAGTTCACCATGGGTGGCAGCCCCACCCGACCGATTAT
ACCTACACGGTGTATCGTGATGGTACGAAGATCAAGGAAGGTTTGACCGAAACGACCTTC
GAAGAAGACGGCGTAGCTACGGGCAATCATGAGTATTGCGTGGAAGTGAAGTACACAGCC
GGCGTATCTCCGAAGAAATGTGTAAACGTAACCTGTTAATTCGACACAGTTCAATCCTGTA
CAGAACCTGACGGCAGAACAAAGCTCCTAACAGCATGGATGCAATCCTTAAATGGAATGCA
25 CCGGCATCTAAACGTGCGGAAGTTCTGAACGAAGACTTCGAAAATGGTATTCTCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 772>:

GNMNS25TF gnm_772

30 GGCCGATAGATTCTGCGGATGAATAAGACCGAGTGCCTTTTCGCGAATTTGCGGTAATGC
CCATTCCCAGAAATTCACCGGCACCATTTTCGGCCATGTCACAGCGGCATCCATCGATTCC
TTTGCTTGCCCCAAAGAGCAGAATATCTCGCATCCGAATCCACGTGTCCGGTAGAGGATC
GAAGTGTTTGCTTCCCTCCATTCAGGTACACGATGCCGTACTTCAATTTACCGTTTCGTA
CCAATCCTCCTTATCGAT

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 773>:

GNMNS28TF gnm_773

40 GAGTAAGAACAACCGGTCGAGTAGCTGCTGCCCACTATCCGGGCGGCTAAAAAGCAGATC
GGTCAGTTTCATCGCCCCAAAGTCTTTCCTCCGGTACGTAGTACTGCTTGGGTACCTCCCT
ATTCCAGAGGAGATCACGCGAATGATCTGTCAATAAGGGAGTGAGAAGAACACTATTGAG
CAAGTCAAGAACAGCATCTGTCCGAAAATGAGGAACTTTTTGAATAAGACGGATTTCTGC
CTGTACCCTGATCCACTTCTCGACAAAAATGGAAATGGCACTTTGAGAGAGAGGGATAGC
CCATAGTCACATTGATACGTCTACAGTCTCGGCCAGACTGTTCAATACGGGCATCAACA
TTCCTGTATCGGGAAGAATGATAGCTGTTTCTATTCCTTCTTTGGTCAGAATAGCCTTCA

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GGGTATAACTCCTCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 774>:

GNMNS30TF gnm_774

5 CACTTCAATACTCAATTCATTCTGGCCTGGCTGTTGATCTTTTGGGTATTGTCCTGTT
TGGACGGTTGGGGCTGCTGCTGTCCGCCCTGGTTATTGTTATTCGGATTGTTTGGCCGT
GTTTTTGTGCTGATTACTCTCCTTATTCTGATCCTGATTGTCTCCTCCTCCTTGCTGTT
GCTGTTTCTGAAGCAACTTCATGGTCAAAGCCAGATTGTAACGAGTCTCTTCATCGGTGCG
10 GGTGATTTCGGAGCGAATGCTTATAGGCCTCCACACTCTGCCGATAGTCTTCTTTTCA
TAAAGGAGTTGCCGAGATTGTGCATCAGTTCGGCTCTACGCTTAGGTGTCAATGTCGGGT
CTTGTAAGAGCAGCATAGTTTGGAGAGCTTCATCGGTGCGGCCTTGTGCATACTGTG
TACCGGCCAAACCGAATCGTGCCTCGGTGAAAGTACTGTCCTTGGAGAGAGCTTTCGGAT
ATCGACCTCGGCATTGGCATATTGATGGCGTCGATATACT

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 775>:

GNMNS34TF gnm_775

GGGACTGCTTTCCGACTTGAAAAAGAAAGCAAAGAGGATGGCGATGACCAATGCATAAGC
TGCGAAAATATACCATACCGTGCTCCAAGCCGTATGACCGGCATCCGTAAAGCGATCTAC
CACCCAACCGCTGGCAATCCGCCGATGATAGCTCCGATACCAATTGGTCATTATCATAAA
20 AAGGCCTTGAGCAGCTGCCCGAATCGATGGTGTAGTCTCTCGATCGACAAACATGGAACC
GCTGATATTGAAGAAATCGAAGGCCATACCATATACGATCATCGACAGAACGAGGAAAAT
GAAGCCGCTACCCGGATTGCCGAGACCAAAGAAAGCGAAACGCAACACCCAAGCCAACAT
ACTCATAAGCATCACCCGTTTGATCCCGAAGCGCCCCATGAAAAACGGAATGGTCAAAAT
GAAAAGAGTCTCGGAAATCTGCGACAAAGAAAGCAACACATTGGGGTGCTGAACGGCAAA
25 GCTCTCGCTATAAGCATCCGCAAAATGAGACAAAACGGATTGCCGAATGTATTGGTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 776>:

GNMNS37TF gnm_776

GTCTGCGGCAGGTATGCCAACAGGATTGCCCGCGGTTCTTTCTCCATAGACGGCAGATGC
30 TACAGCCTGCCGATCAACAATGGGCCGAATCTCTGCATGGCGGCATCAGCGGATTTAAT
ACGAAGGTCTGGGAGGTGAAATCCGCCGGCCCCCTCTTCGCTTGTGCTGGAATACGTGTG
GCAGATGGAGAGGAGGGGTATCCGGGCGAGCTGGTTCGTTTCGGATCATTTACAGCGTCACG
GATGAGGGGCGCATTGCACATAGACTATCGTGCTACTGCGGATGCTCCTACGGTTCTGAAT
CTGACCAATCACTCCTATTTCAATCTCTCGGGTGCAGGCGATCCCTCCGTGCATGATCAT
35 ACCCTCATGATACAAGCCCGGCATTATCTCCACAGACGATACGGCCATCCCTTACGGC
GAGCCTGCCGAGGTGAGGGGACGCCGTTTCGATTTCCTCACGCCTCACGGCATAGGGGAT
CGGATCGACAGTGGCATGGATCAGCTCATTTGGGCAAGGGGATA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 777>:

GNMNS39TF gnm_777

CTCTCCTATCGTCAGTCCATGAAGAATAGGCAGCGGATCCACTCCGACAAACGAACGGCA
ATCATCTTGTAAGATGGGACCATCCACGTAGTCGTTTCGGGTTTCGGCCGATCAGTAACGAT
CAGCTTTTTCTGCTCCTCGGCACAAGCCTCCATCACATAGTGCAGCGTACTGATATAAGT

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AAAGAAGCGAGTCCCGACATCCTGCATATCGAATAGCAGCACATCGACGTCGGCCAAACAT
TCGAGGAGTAGGTTTCTTGTTTTTGCCGTAGAGCGAAACGATAGGGATTCCCGTCCTGAC
ATCCCGTTCATCCTTGACCGTTGCCCCGGCATCGGCATCTCCACGGCAGACGTGTTTCAGG
ACCTAGGATCTTGACAGACATTGCATCACTGCCGAGGCA

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 778>:

gnm_778

CCCCCGCTTTCTCTACATAAAATTACATTTTGCCGATATTTGCCGAATTGTCTGAAAT
ATGTGTAATAAGGGGCGTATAATCAAAACATTTGCCCCGATTGCCATGCCTTATTTGCG
10 CCTGTTTGACGATGCCGTAAGCGGCCGCGCAAAACGCTATCAAAATCATGTGAAAGCCG
TTTTTTCCGTCCCGAAGAACTCGATGCTTTGGACGGCGCGCTGCAATCGGGCTGGCAAAA
AGGGCTGCATTCCGGTGTGTTTGACAGACTACGGATTCCGGTTTGCCGCTGACGGGGGTGA
GTCCGAACGCGCGGCAATCTTGCCCTGCACTGGTTTGCCAACTGCGCCGACATCGATGC
CGAAAGCyGGCTTGCCCGACACTCAGATAGCCTCATGCGTGGGCCATCGACATGCATGAG
15 TTAAGCGTATCGCTAGCGTTCATCTGAGCCAGGATCAAACCTCTCCACTGTCATATTTGT
GTTTGTGTTGCTTCTGTTTTCTCGCTCAGACGCCGATTATTACCCTTTGGATAATTCGAT
TTATCAGGTAGTACACCTCGGTTTCTTTTCTCTCTCGGTCTTTTCGTTTTCTCTTTG
ACAAAG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 779>:

GNMNS42TF gnm_779

GCTGGTTCAGGCTCTCGCCATTGACCAATATTCCTCACTGCTGCCTCCCGTAGGAGTCT
GGTCCGTGTCTCAGTACCAGTGTGGGGGATAAACCTCTCAGTTCCCCTACCCATCGTCGC
25 CTTGGTGAGCCGTTACCTCACCAACAAGCTAATGGGACGCATGCCTATCTTACAGCTATA
AATATTTCTTGTAAATATCATGCAATAATATAAGTGTATGCGGTTTTAGTCCGTCTTTCA
GCCGGTTATCCCCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 780>:

GNMNS49TF gnm_780

GCCGACTGCCACGGTGCCGGCTGTGCGGTGACGATCGGCCGGGCCGAAGTCGGGATGCCA
GTCGGCTTCGTGTATCTTCTCTGCCATGCCTTCGAACTCGCCTTTGCGGATCTTGCCAG
GTTTTACGGTGGGGAGCGGTAGCCGATTTCTCATAGAGGAATACGGGCACGCCGTACTT
CTCGCCTATCGTGCGGCCTACCTCCTTGCGGAGGGTGTGCGGCTCTTCGGCAGTCACATT
CTTGATGGGGATAAAGGGGATCAGTCCACTGCGCCCATACGGnGGTGCTGACCCGTGTG
35 TTTGGTCAGGTCGATCAGCTCTACGGCTATGCCAACGGCTTCGAGCACTGCCTCCCGAAG
GGGCTCGGGTTCGCCCCACTACGGTCACGACGAGACGGTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 781>:

GNMNS51TF gnm_781

CCCTTCGTGAGGAAAAGACCGGTGGATTCCACTACGTATTCCACTCCGACTTGATCCCAT
TTCAGATCGGCAGGGTTCTTCTCAGCTGTAACCTGAATGGCTTTCCCGTTTACTATCAGC
TGACCATCTTTGACTTCGACTGTCCCATTTGAAACGACCGTGTACACTGTGCTACTTGAGC
ATGTACGCCATATATTCACATCGATCAGGTCGTTGATGGCTACAATTTCAATGTCGCTT

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CTGTTTTGTGTTTGTGCTGCGCGGAATACCAAGCGCCGATACGGCCAAAGCCGTTAATA
CCTACTTTCGTCATAACTAAGTGCTTATATTTAATGTTAACCATTATTGTTTTGTCCGG
AATACTTTGCTTTTCCCCCGAAAAGGATCCGCAGAGATTCTTCCCGATAGACAGCGTTC
CAATGACCTTGCT

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 782>:

GNMNS53TF gnm_782

TAAATGGATGACCCGGCTTTTTTGTTCGGTGTTGATTCTCATCGGTTTCAAACAAGA
AGAAAGAGTCCGACTCTCTATTTACTTGTATGGATTAGAGAAAAATCAGAGAAGGCCTT
10 CGTCAGCGAAACTGAAATATGCCCCATCGTCACCGATGATCAGATGGTCGTTCACTCGAA
ATCCGAGCAATGTGGCAGCCTTTTGACCCCTTTGAGTAAGCTGAATATCCTGTTCACTTG
GGCGTACCGTTCCTGAAGGATGATTGTGTGCCAGAATGATTGCCGAGGCAAGATGAGAGA
CGGCTTTGTGCATGATCAGACGGACATCGGnCGAAGTCTCCGATACACCTCCTCGGCTAA
AGGTTCTCATGCTG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 783>:

GNMNS55TF gnm_783

GTACTTCGAAGAAGCATCCGGCGGCACGATCTTCTGGACGAAGTGGGCGAACTGCCTTT
GCCACGCAGGCGAGGCTGCTGAGGGTGTGAGACGGGCGAGTTCATCCCCGTAGGAGC
20 CAGCCAGTCGCAGAAGACGGATGTCCGTATCGTAGCGGCGACGAATGTGAACCTCAAGGA
GGCGGTAGCGAACGGGAAGTTCCGGGAAGACCTCTTCTCCGGCTCAATACGGTACCGAT
CGAGGTGCCTGCGTGCGTATGCGACCGGACGACGTGCCCTTGCTTTTTCGCCGATTGCG
CGCCGACAGCGCCGAGAAGTATCGGATGCCTCTGCTGCGCCTATCGGACGAAGCCGTACC
ATATTAATGCGTTACCGCTGGCCCGGCAATGTGCGACAGCTGC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 784>:

GNMNS57TF gnm_784

GCCATTGTGGACGAACTCTACCGGCTTGCCGGTATCTATAATACCTGTATTATCTGTGTA
CTCCATTTTGTCCCGAACGGGATTAACTGCGTGGGCATATCGGTTCCGAACTTCAGCGC
30 AAGTCGGCGGCCATCCTCTCCATAGAGAAAGATGAGAATCCGGCTTTGTCGGTCGTAAAA
GCACTTAAAGTAAGGGATGGAAGCCCGTTGGATGTACCTTTGATGCTGTTCCGATGGGAC
AGGGAAAAGGAAATGCACGTTTACCGGGAGAGAAATCTCCGGAAGACnAGAAAAACGG
AACTTACGGAATTGGGACAAATCGCAnAAGAAGTCTTTCACGCnCAAGAGCATTATCT
TACAACGAACTGGTCGAAAGAATCATGCAnACGGTCGACGTCAAAGACCGTACGGCCAAG
35 AGTTATATCAGTTATATGCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 785>:

GNMNS59TF gnm_785

CGTGCAATATGTGTCGGAGAACGGCTTGCGTCATACCCCGAACGATACAGCATTCTTGAA
40 GTCGCATATAATCTGAAGAAGATATTCACGCCGGACGACTTGTTGATCTCACTCGCGAG
AATGGCTTGCCGTGAAGTCTTTCTACGGTCTATAATACCCTTACCTTGCTCGAACGCTGC
GGGATCGTTCTGCGTTTGCTTCTCCCGAAACCAATATCAGTACTTGATGGCTTCATT
GCAGAGCAGTGTCCGCTGCTTTTCTGTACCGAATGTGCACAATTTTCTACCTACTACCGA

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CGAAATGTGAAGTCGATACTGGCCGACAAGGATCTCAGACCACCACGCTTCTCTTATAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 786>:

GNMNS63TF gnm_786

5 GCACACCTCCTGCGCGATAAGCCTTGATTATCGCCTGACGGATTTTTCCGGATCGAACG
ACTGCACATGACCATCACGCTTACGATGCGAAGGATTACCTCTCCATTGTAATACGTT
ATTGTAAAAAATACTTCCCTGAGATCTATTCTCTTAGTGCCGGGAGACTCCTTCCCTCG
AGGTCTTCTCTCCATACTTTATAGGCAACTCGTAGAGGCAGGTATTCTGGCTTACTTCAT
CTCTTTTCTGTTTGTGCGCCTTCCCATTACGCTCCACCTCTAATAGTGGAGAATGAACA
10 GTGGCATCATTTGGAAAGCGACAAGAGTCCGCATGTCAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 787>:

GNMNS65TF gnm_787

15 GTAGGCAGGGGGATCCCCCTCAAATCCCCAAAAGTCTTGATTGGAGCGACTCAGCTCTCA
TACTAAAAAATCCCCCTCTAAGCAAACATTTAGGACACTATTGATTGATAGCGGTTTT
TCTATACAAACGATGATCCCGCCCCCTGCTTGAACTGAATTTGACACACCCTCTTCT
GGTAGTTGGGGTTAATTTAGGCCTTGCGTTTTTTTCTGCGGAAAGGTTGCCGTCTTAAAC
CATAAAGAGATGAGACTTTATTGAAAGAGCATATCGGACGAGATCGGCTTGAACTTTTCT
TCTCCCTTGAGCCGTATCATTACCCTGCTGTAGTTCCAATAAGTAnGCCAGCCACCTTGT
20 ATGGCTCCGACCCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 788>:

GNMNS71TF gnm_788

25 GTATGGTTTGAGTGACTACGAGGTTGAGGAGTGCATCAACGACTCCTTGCTTTTCAGTGA
ATTCCTTGGCTTGGACCTCGGCTTCCCTTCCCCCGACCATAGCACGATCAGTCGTTTCCG
TAGTGAACCTCACTCGCTTGGGGATTATGGATAAACTCCTTCGGGAGCTGAACAAGCAGTT
CAAGAAGCACGGCATCAGCCGTATCGATCAAGGCGCCATCGTTGATGCGAGCATTGTGGA
TAGTCCTTACGCCCCCTGATGGCAACGTGGTCATAGAAGTGGCTGAAGATCGAGAGGATAC
TCGTTTCGGAGGAAGCTCGTACACAGCCAGGAGGCTTATCATTGTGAACTCAAGAGTGGCA
30 AACCGGGAGTAGACTCGGAGGCTCGTTGGGTACGCAAAGGCAGGCACTATCGGTATGGAT
ACAAGAAGCACGTCTTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 789>:

GNMNS73TF gnm_789

35 GTTTTGAATATAATATCGAAGTTCGGACAGAATAGTCCGTTTTACCTTCTGTATCGG
CATAGCATCCATCTCTCTACCCGATCGATACGTACATCGAGGTACTGCAAGAGTAGCAA
ATTGCTGAATACTTCACTTATGGGATTATATATGCTCGATCCGATAAGCAGAAAGACTAA
ATAAGTGAATAGATCAATTGTTCTTCTGACAAGAGATAAGCTCCCATTATGATTACAGA
GGCAAGTCCCAGTTTGAAGATTATATGTGAAG
40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 790>:

-848-

GNMNS77TF gnm_790

GCTCACAGCTCTATGAGATGGAGCTACAGCGCCGACGAGCTGCAGAGGCCAAAGTGGAGG
CCGGCAAGAAAAAGATAGAGTGGGGATCGCAGATTCGGAGCTATGTATTCGATGATCGCC
GTGTGAAAGACCATCGTACCAACTATCAGACGAGCAATGTCAATGCCCTTATGGATGGCG
5 ACATAGATGAATTTATCAAGGCTTATCTGATGGAATTTGCCGGTGAAGAGGCGTAATCGA
CTTTCGCTTCTGAAGGAAGGGATTCTGTTGATCAAAGGAAATGGGGCAGGCTTGTATTGGC
AGTCGGCCCATTTCTTTTTTGTGGGAAGTCCGGAAATGTCGCCGGTTTATCGGCTCATAT
ACAATTATACGCAGGGTTATTGTATCTCATGTCTTTCGGGTAGTAGGCACTATATTCTCT
GCTACAGGACGGnGAAATAGCCGACTTT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 791>:

GNMNS79TF gnm_791

CTCTTCGGATTAGATACGGTTTGTATGCTTCTCGATAAGGAATTGCTTGACTTTGCCTAC
TCTCTTCCCTTCGAATACCGCTACGGAAAGCGTATCTATGATGATAATTTGTCGTGAAGT
15 TATGGCGAGAAAGGCATTTCTTTTTTCGGACGATTTGAACCTGCATGGCATTATCTCTTCT
CCTGTTTACCGACTCAAACGATCTCTAAAGCCTTTGCTTCGACCATTTATACCCCGTCCT
TCGATTTGGAAAGGCGATATTATCGGTTTGAACGGATCATGCAACCTGTATTACGACAG
GTAGAGCAAGACGGACGTTTCCACCCGACATCTATAAATGGGTTATCCTTCTGCTGGTAT
CTGCTTCAAACGAnAAATTGATTGACCGCC

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 792>:

GNMNS83TF gnm_792

GCCAAGTTCTTCAGCAGGTCAATGCCTTCGGCAAACCATGACGGGGCATTGAACAAACTG
AAAGGCTTGATCGTGAAGAAATGTCATCGAGTACGGGAACGACTACGCCTGCCACCTTC
25 TTTGCCGAGAGCTTGACACCCTCCACACTGATCAGGTCGGGTTTGAATTCGTTCCACAGG
CTTACCATGCTTCGGTAGCCTACGATCTCTTCTTCCAGTTGGCGTTCCAATCGCTCCACC
TCGTCCTTCGTTTCGCTTCACCTCCAGACGCAATGCGCTCTCCTTGCTTTTGATCGTCGGT
AAGGTACGCTCTCGCATCTTAAGCTGCTTT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 793>:

GNMNS87TF gnm_793

GCTTATGGCAATGCTGCCAAGGAATCATCGACTTGGCCGAACAGGCAAGTGCTAAGATC
GTCGGTATGGGCTTTATCATAGAGAAAGCCTTTCAGAACGGGAGAGAGGCTCTACAGGAA
AGAGGTATAAGAGTGGAGTCGCTCGCGATCATCCGAAGCCTTGACAACTGCTGCATAACT
35 ATTGCAGACGAAACGAAGACTAACCATACACCATTCGAATACACATCCCGTCCGCTGGC
TCAGTGGGCGGGATGTTGCTTTTTTCCTTCCCTTTTCTCCGAATATAAAGACGTGCCACTT
TTCGTTTCTCATTCCGAAGGCATATTGAGCCCTTTGAAAAAGAGAAGGTCTCTATAATG
CAAGAATCCGAGTACGTGCTACAGATATGGCCGAGCGGCAGTTTAGAGACTGTCTCCTCT
GTCTCAAGATAATAAGTGCCACGCAGGATTTTCGCGTTTAACGGGAGG

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 794>:

GNMNS89TF gnm_794

CCACTTTTTCCGTAAGGACAGTATCGTACGTTTCCACCGCTCGGCTTTCCGCCTGTCCCT
 GCCGGTGATCGGCGGCATAACGGCTATAGGGGTAGCACCTTTTCGCCATGCACCTTACGG
 GCAGTCTGGTCAATATCATCATGAATCGTTCTTTTCGTATCCTACGGCGAGACAGCAGATG
 5 CTACCGACTTGGCCATCGGAGCATTCCGGGATTATCAATGGCTATGCCATGCTCTTTTCA
 TGATTATCATCGGTGTGGCTCAGGGGATGCAGCCGATCGTAGGTTTCAACTACGGnGCTA
 AAAATCCGGGACGGGTGAAGTCGGCTATCGCTACAGTTGTGGCGTCAATCTACTGGTCA
 GCTTTCTCGGTTT

10 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 795>:

GNMNS91TF gnm_795

GCAGATGGCGAACGGATTGTCAGCTTGTATCGCCAGACATGAACAGGCCGAATGGGTG
 CTTACAGACGAATTGGCCGATACGGAACGAGGTGCAGGCGGATTGGTCATACGGGCAAA
 GAATAATTTTCAATCTCCCTTCAACTACACAGATGCGGATCCATTCTATCATTCTCCTG
 15 CTGTTTCTTTTAGTTATTTCTCCTGTAGCCGGAAGTATATCCATTACAGACAGTACAGCA
 TCTAAGTTCGACCGATATTTCTATGAAGGTGTCCGGCAGCGAGAACAGGAGAATTATGCT
 GCAGCTTTCGACATCTTTCGCTATTGCCATCGGTTGAATCCCAACGATGCGGCTCTGTTA
 TCGGAGTTGGGAAACTGTATATTGCCAATGGGCGTCAGGAGGAAGGAACCCGGTA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 796>:

GNMNY45TR gnm_796

CGATTATGAGCGCTGTGCGTACGCCTACGCGCCAGCTCTCAAGCCGCCGGACAATTGAAT
 GCGACGATAGTTTGGATTCCATCAATGCCACTACCAGCGGATTGTGAAATACGTTTCCC
 AGCGTGCGGGCATCGGCATCAATGCCGGACGTATCCGCGGTTTGGACAGCGAAATCCGGG
 25 GCGGCGAAGCGCGGCATACCGGCTGCATTCCCTTCTTAAATGTTTCAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 797>:

GNMNY56TF gnm_797

GTCCGCTGATCGAGAACGCGCATGAAAACGGTAGTCTGGATTGTCGTCCTGTTTGCCGCC
 30 GCCGTCGGACTGGCGCTGGCTTCGGGCATTTACACCGGCGACGTGTATATCCTACTCGGA
 CAGACCATGCTCAGAATCAACCTGCACGCCTTTGTGTTAGGTTTCGCTGATTGCCGTCGTG
 GTGTGGTATTTCTGTTTAGATTCAATTATCCGCGTATTCAATATCCCCGAAAAGATGCAG
 CGTTTCGGTTTCGGCGCGTAAAGGACGCAAGGCCGCCCTTGCCCTGAACAATGCGGGTTTG
 GCGTATTTTGAATGGCGTTTTGAAAAAG

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 798>:

GNMNZ15TF gnm_798

CGCGACTGTTGCATAAGCGCGGAGCGCATGATTTTTTTCATGTGTGTCCTGTTTGGGTG
 40 GAAAAATCGGTTTTATTGTATCGCCGTCGGGAATTTTGGCAAGCATTCTGCCGGCAAATCG
 TGATGTTTACAGGGGACAGGTGTGCAATTTGCGGACAAATGCGAGGCTGTTGGCGACTGG
 GTTGCTTTTGTTCGACTTCGTGTTTCGGTTTCTACGGTCAGCAGGCGGCGGTTTTTGTG
 TTTGTTACAGGCTCAATTCGGCTTGTGCGGGTGTGAAAAACAGGCGGTGTTTTTCGGCAAA

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5 GCGGCGGGCGCGGCTGTTGGCGGTTTTCAAATCTGAAGCAGCGATCGTCCAGATGGAAG
CGTCGCACGCCCAATACGAGAATCCGTGCGGCAAAAAATCGGCGGCATCGGTAACTCG
GCGGGGCTGCTGCGGCTGAAGTCGTGCCGTTTCGGCGGCTATCAAGGCGGCAACGGTGCGG
ATTTGCGGAATCATCGATTGCTGATAAGTGTGTCTCCCGCCCTGCATCGAGAAGCATG
GGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 799>:

GNMOB22TRB gnm_799

10 ACTTCTTAAGGTCAAACATCTACTACTGATTGACAGCGAATTAGCATTGCGAGGGAAAGG
TGAAAAGAATTTTGGGAGGGGAGCGAAATAGAAATCGAAATTCGACGTACATAAATAGCG
GGAGTGTTTCAGCGGCGCGATCGTGCATTCCTCCGCACAACGGGCTAATGATCCATACCTA
GCAGTGAGTCCAATTGAACAGGGGAGGTGCAGGGAAATTGAGCTCCAACAGGGTGACGAG
CCGTGCGGGCGCAGATTGAAATTGAGCGACTCACTTACGGTTAGGCCGAAGGCGTTGCAA
15 TAGGCATCGGAGGATTGAATTTATGTACGCCGTAACCGTGGGGACGAGTCGCGGACAGG
GGCGAAAGGTCAAATAAATCTGGAGACAGTCGGCCTCTTTGAAATCACCCAGGCAGCG
TTCTGAGTAAGATATCGACGGGGGCAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 800>:

GNMOB25TE220 gnm_800

20 ATTACTGCCCAAGTGGAAAGTGGGCAAAGTGACGAAGGCACTGTGGTGCAAAATCCTCGA
TAACAATGTCGGCGCGATTGTACAGCGTGATGCCGGGCAAAGACGGTTTGGTACACATCAG
CCAAATCGCCCACGAGCGCGTACGCAATGTGCGGCGACTACCTGCAAGTCGGTCAGGTGGT
GAACGTGAAAGCTTGAAGTGGACGACAGAGGCCGTGTCCGTCTGTCCATCAAAGCCCT
25 GCTGGACGCGCCTGCCGTGAGGAAAATGCCGCCGAATAACGCTTAAGGTGAAAGTGCCG
TCTGAACAGGTTTCAGACGGTATTTTTTACGGGTATCGGGAATGAATGGGGCTTACAGCC
ACAGGACGGCAAGTTCCATAATGCCCGGGGATCCTCTAGAGTCGACCTGCAAGCATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 801>:

GNMOD17TRB gnm_801

30 AGGTGTACACGGTTCCTGCCATTAGTACTATGTGGTCTGTTCCGGCCCCGAATGACA
TCCTGTTGACGATAAACCTGCTGGTCCGGCACCGTGTGGTAATTCGTGTGCACCCTAGAT
TGATAAAGTTGACCCGTGGATCGGCAAATATTATGTTGACGGCGTCGTGTTGTAATTGT
TGTTGACACCTGGGCAGTGGTTTGTGCCACTGTTGGTAACTCCGTTCCGGCTGGAGTCCT
ACGTAGTAGAGGTAGCCGGCCGGATGTACTGTTTCGTGACGAAGACACGTGGAACATCGGC
35 TCGTACGGCTAGTGGGCTGGTAATAGGCATGTTGTGTGTACTCCCCCTGACACCGACACC
CCTTAAATTGACACCGCTAATGCCTGGATGGTGGTTTATGGTCGTTAGTACACACCTGGT
AATAAACATGTTCCCCCTGTACTTCGTCTTTAACGGATCCTCATACCGTTGCTCGTACT
GAGCCCGATTCTGGCCCCAGTACTTAGACGTAGCCCTAACCTCCTGTTGAATATGGTGCC
TGTTCTGCTCGAAATGATGGGGCTGGAAACGTTGTTGACGACCTTGTTTAAATTGAAAC
40 CCTAATCCCTATGTTTAAATGGCGTAACGTTTCGATTTAAGCCTAAATTGACAAATTTGG
TTTGAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 802>:

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GNMOD53TFB gnm_802

GGTAACGCCTAAAGGCGAAACCCAACCTGGACGCCGTGAAGAAAACTGCTGCGCGCCATC
TTCGGTGAAAAAGCATCTGACGTAAAAGATACTTCATTGCGTATGCCACCGGCATGAGC
GGTACCGTTATCGACGTTCAAGTCTTCACTCGTGAAGGTATTCAACGCCACAAACGTGCT
5 CAATCCGCCCCGATGGGATTTGATGCGTTGCGGGGAATTGATGGGGCCGGGACGAGGAC
GTTGGCGCGCAGGTTGCCGAAGCGTCCCATTTCGTCGGCGGCGACTTTGCACAGGTAGTT
CAACGCGGCTTTGGACGCGCCGAAGCCGCCCCAGTAGGCTTTGGGTGTTTCGCCGTGGCT
TTCGCCGACGAAGATGACGGACGCGTCGGGCGACTGCTTCAGCAGCGGGAACAGGGCGCG
GGTCAGCCCCATAGGTGCGACGGTGTGATGCGGTATTGGGTGACCCATTCGGCGACGGT
10 TTGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 803>:

GNMOE03TRB gnm_803

GTTCCCTTGTAGGTGCGAACCGAACCCATATAAATTGTTGAATATCGTTGATGGATGTGT
15 GATTAGTACTAGGAATGTTGTAACGTGTTAAGGTCCTTGTTGTTTCGCTTAATATGCCGGT
AGGAGAAATTAGTAGTAAAGGTACCTTTAAATGCGTGGATAAAGCGGCTGAAATTATGTC
TAGAAATAATAGCGTGTTATTTGGTAGGAATAGATCGTTTACTTAACCTATGTCAATGAC
CTCTTTCCAAAACCTACGAAACCAAACTGAAAGATCGCAATATGGCACCCCTCCCCTAT
GAAATCCCATCCTATGCTTGTATAGTGCCTAGATGGTACCCCTTCGCCCTACGTTGTTC
20 GAAATTGTTTAACTTGTGCCTCTTACACAACGCTGGATCCCGTGTGTACCCCTAGGAC
CTCCCAACGCTACCCGTTCTATCACCATTTCGTTGGATGATACTATTTGTGCCCGGAT
GACGCGGTTTCGACGATTAAAGTTGTTGTAAGAAAATTGTTGGTGCGGCTGGTGATGAC
CCGGTATTTAACGTTAATTGGGCCATGGGTGCACTGGTAGAATGTGAGCCGTTGA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 804>:

GNMOG34TF gnm_804

CGCGCCGAAGAAATTCGCCGGGGCCGCGGATGTTGAGGTCTTGGCGGCGGATTTCAAAGC
CGTCGGTGTGTTTCGTAGATGACTTCAGCCGCGCTTTGGCGAGTTCCCCCAAGGGTCGCC
GCCATTTTCGACGGGGTGGTGTCGTAGTCGTCCACCAAGAGCGCGGTCGCCCGCTTTGGC
30 AACTTGATGTCGCCGATTTTTTGAAGCGGCGGCGGACGCTTCAAAGCCGAGCAAGCCT
TTTTGGATCGCTTCAACCGATGCGCCGACTTCCAGCGCCACGCCGATGGCTGCCAATGCG
TTCAGCACGTTGTGTCTGCCGGCATATTTCAGCACGACTTCAAACGACCCCTGCTCATGT
CCTTTTCATTTGAACATGGACGGTGAATTTTCATTTCGCGCGCGACGTTTTTCGATGTCGGTG
GCGTAGATGTCGGCGGTATCGTCCAAACCGTAAGTAGCATAAGGTTTCTCACTTTGGGC
35 AAAATCGCGCGGACGTGTTTCGCTGTCAATACAAAAAGGCTTTGCCGTAGAAGGGCATA
CGGTGGATGAAATCGATAAACGCTGATGCAGTTTTTCGACGCTGTGCCCGTAGGTATCC
ATATGGTCTTCGTGATATTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 805>:

40 **GNMOG50TR gnm_805**

TTTGACGGTTTCATTATGGCGCAGCAGCTTCCCGAGCCGCTGGCTTCGCAGTTTGCCGCG
ATGAATCGGGGCGACGTTACCCGCGGGGCTGATTGAAAACGGCGCGGATGCTGTCTAAAC
AAAATCTCCGTCTGAACAAAAATCCCCATCGGATAAAAAATGCCGTCTGAAACGTTTCGGG
TTTCAGACGGCATTTTGTGCGGGGTACGCGGCGGTGCGGCTTATTTCACTTTACCTTTCAA
45 CGCGCCATATCCTGCCGCGTCCATTTGTTCCAGCGGGATGAATTTCAAGCTCACGCCGTT

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GATGCAGTACAGCAGTCCGCCTTTGTACGCGGGCCGTCTGGGAAGACATGTCCCAAATG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 806>:

GNMOH10TR gnm_806

5 CCCGTACAGCCCGTCAAAATCCGTCGCGTTGTTGTCGGGCAGTAACACGCAGAGAGACGT
TCAGACGGCGTCGCCCCGTTTCCCAAAAAACGCCGTTTAAAGTAAAAAATATTTTAAAC
AGACAGTTGATATTGACAAATCAAACCGAAGATTTTAAATGCTGCCAACCAATCCAA
ACCAACCGACAAACTTTGGGCGTGGATGCCGCGCATCCCCGATTTCGCCCTGCTGCCCGGC
10 AGACGCGTCAGCGAGATCGACTATATGGCGCGGTGTTTTTTCAGACGGCATTATTGTTG
TTGGAACGCTATCCCGCCGCACTCTTCTGCTGCCTGCCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 807>:

GNMOH12TF gnm_807

CACTTTTATATAAATCATTGATCCCATACCCCAACCTCCAATTTTTTGCCAACCATCTA
15 TTGTATATTCAACACCTAACTTTGTTACATCCATTATCACAGATTGTAAAAAGTAAAT
GCTTCTCTTTAAAGATCCATCAAATCCTTTATCTAAAGCAGATATTAAGTCTTCCAT
TATCCCTTCGCTACCGTTCGGATTATTTACTGCTTGCTCCGCCTAAAAACGTCGTATT
TAATATTGGAGTGATTGACACATGGCACGTATATTGGTCCTAAA

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 808>:

GNMOI35TF gnm_808

GAGTTTGGCTGTAAGTGGTTTTACCATTATGGCGGCACGCGTAAACATTTGCCGAAAATA
CGGTCTGAACCGCTGTAACAAGCAACATACTTCCAATTATTTAGATACGCGCATATCAA
25 CCTCCTTTATCGTTTCATCTTCAAAAAAGGGAAAGTTTTTCAATAGCACTTCAATCAATTC
CTTCATTCCCCGGCCAAAAATTGGACGGTAATCCCACCCACCCCTACTTTGATTTCAG
AAATATCTTTAAACTTCCGCTTAAAGGCGGACACTTTGTCCATATCGTCATCAATTCCT
GTTTGCCGAACGGTATTTTCCGCTTTTCCAAAACCTCGTCATAATAACAAGATAnATTAA
GCAATAGCCCCAAGCACTATTTGCAATTACGACTAATCTATGTTTTTCCCTAGTTAAGT
AATCTGCAACGCTATCATAGATTGCCCT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 809>:

GNMOK36TR gnm_809

CCTTGAAATGAAGTATCTCTTATAAACTATCTTGGTAGCTCTATAGTGTTTCGTGACC
CAGTGGAGCTCCAAGCACATCTGTGGAAGGTAATCTTCACAGACACTGTGGGATTCAT
35 TGCTGCTTTTGGGTTGTGACTCAGTCCTTCGGTAAATATAGCCATTACATACTTCTC
CAAGAGCTGAATTATAGTAATTCAATTTTAAACTCACAAAACATTTTGTACAGAAAT
AACCCAAAGGCTTTAAATTATATCATTTTCTTGATAGATCACTTATATTTCTATTTCTTG
ATTTCTTACTGGATTTTAAAAATAGTCCCCTTTGGTCTTTCACATGATCTTATTTAAGCC
CCTTTCCCTAGTGTGACTTTCTTTACAATAAAGTTATTGGGAAAACTCATTAAATTCAT
40 TGACAGAAGGTATTGAACTCCTGGGTGTTGAACAGATATACAACACGCTGAAGCTGAAT
TGCGCCGTGTATCCTGCTGTGGACAAATCCTGCCGCGGTCGGCGGACAAACCGTATTCC
TACGACAGCAGCGACCGTTTCCACTACCGCGAACAGCAATGTTTTGAATGCCTCGTTT
GAGAAATCGCTGAAAAACAAATGGACGAAACACCATCTGACTTTGGGCTTCGGTTACGAT

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GCTTCCAAAGCGATTTCCTGCCCCGAACAGCTTCCCACAATGCCGCAAGGATTTCCGGAA
TCCACGGGATTCGATGAAAACAATCAAGATAAGTATCTTTTGGGTAAGCCCGAAGTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 810>:

5 **GNMOL05TRC gnm_810**

CCCCAATCGACCGACCCAAAACAAATCACCCCTGATGTAAGCCGTAGTAACCTCGTTGT
ACGCCGTTGTGCTGCACGACGATCCTCTGTTTAATACATGGGTAATTCTCCTGAC
TTGCCGGACCTACTTAACACATCGACCTGTCGATGGCCCGTCTCTTTCTGTCGCGTCC
GTGTATTGTAGCGGCCCTCTGTAAGACGTGATCCGGGGAAGGCGGGCAACCGTAAG
10 TATTCGACGCCCCCTCGTTTAATGTATGCAACGTTCCGTTGATTACCTAGTTATCTTTT
CTTAACATTTGGCACTGATTCTACTAAAACTAAGGCGGGAATCCGGGCACACCGGTCGGT
AATAATTCGCAAGGTAAGGTCGACATGTGTTAACCTGTTGTTGGAGGTAATCCACCTAG
TAGATGGGGTGGACCGTTCCCGCCGGTGGTAATCCGAAACCGAATTCGTCTTAAATTGCG
CGTTGCTGTTGATGAAGGTAATAGGATGACGCTCAAATGTGTGTTCCCTACGGTAAGG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 811>:

GNMOL83TR gnm_811

CTTCGCCGCCGCGTCCGAACACGAAAGGGTCTCCGCCTTTCAAACGCACCACGCGCCTGC
CTTCGCCGGGCCAGCCTGACCATAAGCGCATTGGTGTCTCTTGGCGGGGTGCGCTCGCCCC
20 GGGCGCGCTTGCCGACAAAAATCCGTTCCGCATCGCGGCGGACGAGGGACAGTATGCCGT
CTGAAACCAGCGCGTCGTAAAGCACCACGTCTGCCTGCTGGATTTCCTGCAGCCCTTGA
GCGTCAGCAGCCCCGATCGCCGGGACCCGCGCCGACCAGCGAGACGGAGCCGCTTGAT
CATTTTGACGACTTTGTTCGAATTGGCCTGCCAATTCCCGTTCGGCAAGGGTGTTTTGCC
GGTTTTTGACGAnGGCGGCGAAACGTCCGTTAAACTGCTTTTCCAAAAGCGGCGCGGTT
25 CGGTAACGGATTTTCACTTTGCCCTTGACGCGATCGCGCCACCTTCCTGAAATTTCCGCCA
TATCGCCCAAAGACGGCGGCGAGCGGGCTTTCAGCCTTTCACGCAGCAGTCGGGCGATGA
CGGGCGCCGCCGAACATTACCTGCCTCTACATCCGTGAGGCGGAAGCACTGGGCTTGGGA
CACGCCGTCTTGTGCGCCCGCGCCGCCATCGGAGAC

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 812>:

GNMOM42TF gnm_812

GTCCCCCTGGAGGGGGCGGGCTCTTCGTTGCGGCGGAGGTTGTGGTCTTCTTCGGGCTG
CGCCTGTTTTTTGCGGAGCGCTGCGGCGGGCCCGCGCGCTTTTCTTCGGCTTGCGCCTT
TTTTGCGTTTCTGGGTTTGCTTTCGGCGGGCTGCCTTTCGGGTCCGGGCTTCGCGTTG
35 CGGTTTTTGCGTTTCCTTGGCGGGCGGAGGTTTCGCTGTCCGGCGTTTTTTGGGTCTT
GCGCGCTGCTTGGGTTTCGGGTTGnGTGCGCTCGGTGTTGGTGGGGCCGGTTTTTTGGAA
GGTGTGCGCGTGCGCGCTGCGGTGCGGCGGGCCGGTCGGGGCCGGCGGAACGCGCG
GGTCGAACGGGTCTGTTAAGGCTCCTTCGGGTGTTGCCGCGAAGTGCCGTC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 813>:

GNMOM51TF gnm_813

ATCAAATAATTGATTTTATTAGAATCTATTTGCAAAGCCATTTGCCGTTACACAAGAATG
GCACATnTCnATAACTGATGAGGATTTATACCGATGAAGACAGACATTCAAACCGAATTA

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ACCCATGCCCTACTACCACACGATTATCTGTGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 814>:**GNMOM81TF gnm_814**

5 CGTGTCCGCGCTTTCGCCCCGACGATTGCGCGCTCAACCAAAATGGTCGTGGGACAAAAT
CCTGCGTTCGCCCTTTATCAAACAGGCGGACGTATTGCAAGGCATCTACTTCTTCAGCGA
CCGTTTCAATATCGACGAAAAACGCCGCAACTTCGACTTCTACGAACCGATGACCGTGCA
TGAAAGCTCGCTGTGCCCCGTATTCACTCTATTCTCGCCGCCGAAGTGGGCATAGAAGA
10 AAAAGCGTGGAATGTACAGCGCACGCCCGCTGGACTGGACACTACACAACGACACGAAG
AGGCTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 815>:**GNMOP70F gnm_815**

15 AGGATCCCCGCCGCTTCGGTACGCGCCCTGGAAATGTTGGCATGGCTGCCGGGGAAACTC
GGTTCCCTGTCCCGATGCGCGGGCGGTCATCGAAGGCCGTCTGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 816>:**GNMOP96R gnm_816**

20 ACGGACAAAGCGTGATGGTCGTGCGGCATCAGAAAGGGCGCGACACCAAAGAAAAATCC
GCCGCAACTTCGGTATGCCCGTCTGAAGGCTACCGCAAAGCCCTGCGCCTGATGAAGA
CGGCAGAAAAATTCGGCTTGCCCGTAATGACCTTTATCGATACGCCGGGCGCGTATCCCG
GCATCGGCGCGGAAGAACCGCGGCAGTCGGAAGCCATCGGCAAAAACCTGTACGAACTGA
CGCGCCTGCGCGTTTCTGTTTTGTGTACCGTCATCGGCGAAGGCGGTTTCAGGCGGTGCGT
25 TGGCGGTGCGCCTAGGCGATTACGTCAATATGCTGCAATACTCGACCTATTCTGTTATCT
CCCCCGAAGGCTGCGCGTCTATTTTGTGGAAGAACCGCCGAAAGGCGGCGGATGCGGCTC
AGGCTTTGGGCATTACTGCTGACCGCTGCAAAAGCTGGACTTGGTCGATACCGTCATCA
AAGACCATTGGGCGGCGCGCATCGGGGATTGGGGCAAAGACCGCAAAAACCTCGTGGACAT
CATCGCCGCTTTAG

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 817>:**GNMOS68TRB gnm_817**

35 TAGCAATTATTGTTTCGAAATAAGGTGATATTGCCATCCCGGCTGGCCCTGGCATCCCTC
ATGCGGGTGAATGCGTGGAATGTTAAGGTTGTAATTTAAAAATTGGTGAGTTCTCGATTA
CCGTTGTTGTTAAAAATGTTCAAACCTTGTTGGTAAAGTCCCGAAAGATGTATCGCAAG
TTGCCCCCACGAAAAAAGTTGACCTCCCAAAGAACTGGTCCCCCCTACTGGCTTATACCA
CCTCGACCCTAACTGGTAATATATCGTCCGCTATGCGTCCTAAAGGTACCCGTGTTGTT
GAGTAGGCTAAGTCGCTCCGCGTGTGAGCCCGTTGAAGGACTCAACTCGCCCTCTGTC
TAACTCGCTTAAAGGTCGTCTTTATACATACCCGTAGCAGCTGATGGTGAGGTGGGCACC
40 GCCCGAACTCAAATTGTGGGTTTGTAAACTGCCCGTTACCCCTGGTAAATGGAACACC
TCCTATGTAAGATCTGATAACCCCTCGCCCCGTTTCGTGGCCCGGATACTGTGTACCGGA
GAGTAGGGTGGCCAAAGTGAGTAATGTTAAACGATTATGTTTAAACGTGGACGGCGTG
GACCCC

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 818>:

GNMOT05TF gnm_818

5 GCGGCAAATCCACCTACATGCGCCAAGTCGCGCTGATTGTTTTATTGGCACACACCGGCT
 GTTTTGTGCGTCCCGTTTCAGCATATCGGAAAACCTTTGGTATTGTGGCGTAAGAATATCG
 AAGCCTGACAGCCTGAAGCAGTTGTTTTGCTATTGTTCTTTAACGGGCGGGACGCCGTCC
 TTCGGCGCGGCATTTTCGGCGGGCCGAAACCTTTCCGGTGAAAACGGATTTTGATTGCCG
 CCCGATGCTGTCTGCAAGTTGCGGCGGCTTCCGTATGGTTTGAATTGTTGACAGGATGAT
 TGGAGGGCTTATGCAGTTTCCTTACCGCAATGTTCCGGCTTCGCGTATGCGCCGTATGCG
 10 CAGGGACGATTTTTCACGCCGCTGATGCGCGAACACACGCTGACCGCCGATGATTTGAT
 TTATCCGGTGTTCGTATTGGAGGGTTCGGCGCGCAGGAGGATGTGCCTTCTATGCCGGG
 TGTGAAGCGTCAAAGTTTGGACAGGCTGCTGTTTACGGCGGAAGAGGCGGTAAAGCTCGG
 TATTCCGATGTTGGCACTGTTCCCGTGTTTACGGCAAACAAAACCGAGCGTGCGCAGGA
 GCGGTACAATCCCGAAGGACTCGTGCCGTCAACTGTCCGCGCCTTGCGCGAGAGGTTTCC
 15 CGAACTGGGCATTATGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 819>:

GNMOT41TR gnm_819

20 GGGTATGCATGTTTGATTCCGCTTCTTTCAGCCACGTGCGGAAGCCCCAGCGTTTGAAAT
 CGACAACCAGCTGCGCCCATTTTCGGCGTAGTACGGCGCAGGCTTTCGATGCCGTCTGAAA
 GCTCGGCGTGCAAGTCCACATCGGTTTTAATCGTGACCAAATCATACGACAGCGGCAGTT
 GGGGCGAGCGCGCTTGCAGGTTTCGCCCACCTTGCCCTTGATTTCGAAGCGTGTTCCA
 TCACACCAGCCAGCGAACCGTAGGCTTCCAGCCATTTACCGCCGTTTTTCGGGCCGGGC
 AATTTGAGCTGAACGTCTATATGCCCCGTTATCGCCTACAACCTCTGCAATCCATCCAC
 25 CTGTTGGGCGACGCGTGCAACAGCTTCAACGAACACTGCGCCATCGGCATCGAACTCGTG
 CCGGnAAAAATCGACTATTTCTGCACCATTCCCTGATGCTGGTTACCGCATTATACCGT
 AAAATCGGTTACGAAAACCCGCCAAAGTCGCCAAAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 820>:

GNMOU02TR gnm_820

30 AGGTTGGCTGTGTTTCATAAAAACTTATTACATGTAACGGTTTGAACGGACATTCCGTC
 GGGTCGGAATGTCAAAAAGGCGGATTGTACCAAAGAAGTTGGACATAATTTGTTTGCA
 GGCTGAAGATTTGCTTAAAAATTCATTAAGATGGGCGGAACAAATAGTTTGGGTACAGCG
 TGTTGAAATACCGCTTATCCCTTAAAATAGCGTCCGAAATTCGTTCGGACGGCATCAAG
 35 ACACACGGTAATCCGTCTGAACCCCCATTTGACATCAACAAACAAGAGCATTGAATGAA
 ATTCATCGACGAAGCAAAAATCGAAGTCGCCGAGGCAAAAGCGGTAATGGCGCAACCAG
 TTTCCGCCGCGAAAAATTCGTACCGCGCGGAGGTCCGGACCGCGGCGACAGCGGCAAGG
 CTGCAGCGTCTGGGCGAAGCCGAAGATCACACCAATACCCTCGTCAATACCGCTTCGT
 TAAACGCTA

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 821>:

GNMOU06TR gnm_821

GGTAACTGACGGATCGGGCATTCTTAAATTACCCGTGTATCGCTGTAAATCTTAGAGAT

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5 GGCGAATATAGCGGACTGCATCACGCCCCGCCCGATTCAACCATGGCGCGCCATGCCG
 ACATCCACATCACGGCGTCGGTTTCCAAAGAAGCCTGCCGCTGGGGCTTGCCCCGACCA
 CCAGCACCACCGCCGTCATGGCTTTGGGCGATGCGTTGGCGGTCGTCTGCTGCGCGCAC
 GCGCGTTCACGCCCCGACGATTTGCGCTTGAGCCATCCTGCCGGCAGCCTCGGCAAACGCC
 10 TACTTTTGGCGGTTGCCGACATTATGCACAAAGCGCGCGGCTGCCGTGCCGTCCGACTCG
 GCACGCCCCTTGAAAGAAGCCATCGTCAGCATGAGTGAAAAGGGCTGGGCATGTTGGCGG
 TAACGGACGGGCAAGGCCGTCTGAAAGGCGTATTACCGACGGCGATTGCGCCGCGCTGT
 TTCAAGAATGCGACAATTTTACCGGTCTTTTCGATAGACGAAGTCATGCATACGCATCCTA
 AAACCATCTCCGCCGAACGTCTCGCCACCGAAGCCCTGAAAGTCATGCATGCAAACCATG
 15 TGAACGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 822>:

GNMOU37TR gnm_822

15 TTTTTCACACGCGAGTCCGAAACGTCAGACGGAGTTTGCGGTGCGACAGGTAAAATGGTGG
 CGTGCTTATTGAAATTTTCGACAAAGGTCGTCTGAAAACCGAAAAATATGGATTTTCAGACCA
 CCTTTGTTGTATTTGGTAAGTATATGTTCCCGTTGTATAATTACGGAATTGCAATTCAAT
 ACAAATACACAGGACACGCCATGACAGAAATCCATCACATGAGACAGTACACAATACGAT
 GTCATGACTGTAGGCGCAGGCCCGTCAGGTTTGTCTGCCGCCATCACAC

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 823>:

gnm_823

25 ACACCGTCTTGTTTCGGCGGTATGAATATGGACAAACAGACCGCGACCTGCGTGCCGGCT
 GCGAAATCGTCGTCGCCACCGTCGGACGGCTGCTCGACCACGTGAAACAGAAAAACATCC
 ATTTGAACAAAGTCGAAATCGTCGTTTTGGACGAAGCCGACCGTATGCTGGATATGGGTT
 TTATCGACGACATCCGCAAAATCATGCAGATGCTGCCCCGCCAACGCCAAACCCTGCTCT
 TTTCCGCCACCTTCTCCGCCCGGATACGCAAACTGGCGCAAGACTTCATGAACGCGCCCG
 AAACCGTCGAAGTCGCCGCGCAAAACCGGCATCGCAACTCCAAAGAGAAAGAACCCTAAC
 CGTCATTCCCGCGAAAAATAGAAAATCAAAAAAAAAAACCTAAAATCCGTCATTCCCGCGC
 30 AGCGGGAATCCAATCCGTCGGTTCGGTTTTTTTTTTGAAATTCAGGTAACCTCCAAA
 CCGTCATTCCCGCGAAAGCGGGAATCTAGAAACTCAAAGCTGCAAGAATTTATCAAAAAT
 GACTGAAGCTCAAAAACCGGATTCTACGAAAACAGGAATCCGGAGTCTCAGGGCTGGC
 AAAACCGTTTTACCCGATAAGTTTCCGTACCGACAGACCTAGATTCCCGCCTTCGCGGGA
 ATGACGAAATTTTAGATTGCAGGCATTTATCGGATAAAACAGAAATTAAGCGTGACGAAA
 ATTTATCCGAAATCACAGCAACTTTCCGCGTCATTCCCGCAAAAGCGGGAATCTAGAAA
 35 CTCAAAGCTGCAAGAATTTATCAAAAATGACTGAAACTCAAAAACCGGATTCCCGCGAA
 AACAGGAATCCGGAGTCTCAGGTTTGGAAAAACCGTTTTTCCCGATAAGTTTCCGTACCG
 ACAGACCTAGATTCCCGCCTTCGCGGGAATGACGAAATTTTAGGCTTCTGTTTTGATTTT
 TTGTTTTTGCGGGAATGACGAAATTTTAGATTGCAGGCATTTATCGGATAAAACAGAAAT
 TAAGCGTGACGAAATTTATCCGAAATCACAGCAACTTTCCGCGTCATTCCCGCAAAAG
 40 CGGGAATCTAGAAACTCAAAGCTGCAAGAATTTATCAAAAATGACTGAAACTCAAATAAA
 CCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 824>:

GNMOV26TF gnm_824

45 GTGCCAACAAAGGCGAACCCCCGGAATGAGGCCGATACCAATATTCTGAAAAACGTCGAA
 TCTGCCTTGCAAGACGCGGACATTACCGTCGGCAACCTCGAAGGCACGCTGTTTGACGAA

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5 GGCGGTACGCCGGAGAAAATGTGCAAACCCCCAAAATATGCTATGCATTCCGAACGCCCT
CCGCATACGGGCAATACCTTGCCGACGCGGGATTGCGACTACCTCAGCTTCGCCAACAACC
ACAGCAACGACTTCGGCGCGCAAGGCATCACGGCAACGGCGGCGAGCGGCAGCTCTTTTA
CATACTCGATCGCGCTAAAGCCGCTGCCGATAACGATGCCAAAATTGCGGGAAATACCGC
CATCGCCAGATAAATTTGTCCATCATCAGACCTTTACTGTTGAGACGAGACAGCATTG
CCGCACGTTTGGGGCTTATCTTTGATTGCGCTACGTGCGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 825>:

GNMOX61TRB gnm_825

10 GTTCCGTCCTTGATTGCGATTGGTCGATAGTCTAATACTACGATCCTTGTGAGGTAGATG
AATGTAACGTGGTAGAAGACGTTGTTACTTGTGTTGTCGCCCACGGACTATCCGAATGCGG
ATGAAGAAATTGTTGATGCATCGGCCTAGGAAGGCCCGTAATCCGGAAGAAGCTGTTC
ACGCCTTCGTTGTTGAATCGTCCGTTACCGAAGGACCCGATGAAGAACTGCTGACACGT
15 GTGAAGCGCTTGATGACACGTGTAATTCTGAAGGTACAGACGTTGACACGTCTTGTAGTT
CCGTTGAAGTACGTACCATTATTTGTGATGATCCGGTAGAGTCCGTCGCGGATGAATCGA
CCGAACTATTGGCGCAAATGAAGAAATTGTAAGTTGCTACTTCGATTGTATGTGAAT
ATCGGCCCATTTGAAGATAAACAAGGGGGCATAGACGAGCAATATAATTGCAGAATAACC
CGTTGTTGAGTCGAAATGTTTGTGTAAGATTCCCGA

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 826>:

GNMOY35TRC gnm_826

25 AAAATTTGGACCTCTCCTCAAGTGAACCTCGTTCCTATCTAAGTCCTCCTTGTAATCCCC
CTAGCCCATTTGACAAGCGCGAACGTTCAAAGTTCTCCTCCCTCTCAGAAAGGAGGCGACT
TAGTTGTAGGCTTTTCATGGTCATTCCGCCATGATCCTATTTTAGCTACGAAGTACATT
GCGGCAAGTGGATCTTCCGCGGCCACTTCATTATCCTCGGCACCTTTTATCTTTACGGC
GCGATGGGTGGCGCGCATAAGATTTGGGAATGCACCTATTGTAGCACGTCGATTCTGTGAC
CATCAGTGACCTTGATCCTACGTATCTGAGCCGTAGAGCGTAACCTGGATCATGACTGGC
30 CCCGCGAGACCGGTCTTGTCTGTGGTCCGGTCATTTCTCGCATTGATTACCGCACGATG
CGCGAAGTTTCGGCTACAAGGGTTACGAGGATCCGATGCTACTTTTATTCCTTCTTGGTC
CGCTATTGGTAGCTCTACCAGAGCGTTTAATCGAACGACGGTAATCAACGATAAGGGCCG
TGTCTGCCGTGGGATCCAATTTAATACTCTATGATATGAGTCGATGATAGTTACGTAGTA
TTCCG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 827>:

GNMPB01TRB gnm_827

40 ACACTCTCCTAACACTCCTGGCTGGTACACGTTGCTTGAATTGGGCCCACACCCTAGATG
GTACCCCGGGACCACCTGGACCCCGTGCATCTGAAGGTCGGACAATGATGTCGATTTCCG
TTGGACCCGGAAGTGGACCCCGTGTGGACCCCGCGTCGTTGTGCGACGGCACAGATCCTG
GCCCCGGCGCCGACGCACTATTGTATTCCTGGTGATACTGTTGTTGTGTCGCATCCCG
GTACCATTTGGCCAAGATCATGGCGTCGTTTCGTAGACGAACAAGTAATGCCGCCCGTTCGC
TTGTGTATTGCGTTCCCGTTGTGCTTAACGCTCGGTGCAAGTGGATCGGTGAATTCCTT
GTTTCTATGACCTGTTGTTCCCGTTGTTGTGCGCAATA

45 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 828>:

-858-

gnm_828

GGTGGCGGCGCTCTAGAACTAGTGGATCCCCGGGCTGCAGGAATTCGGCACGAGCCCA
 CAGTGAGTTTCCCCACACTCGGCTCCTTGGAGCCCCGACAGTCCATAGCACCCAGGAG
 ATGTCTAACCTTAGGGACTTGGAGGCCTCCAGGGGTCTAGGCCAGCTGAGTTGTGAAGT
 5 TGCATGGCAGGGACAGGGCAGGGCCGAGGCCAGGGTTGCTGTGATTGTATCCGAAGTAGT
 CCTCGTGAGAAAAGATAATGAGATGACGTGAGCAGCCTGCAGACTTGTGTCTGCCTTCAA
 gAAgCCAsACAGGAAGGCcTGCTGCCTTGGCTCTGACCTGGCGGCCAGCCAGCCAGCCA
 CAGGTGGGCTTCTTCTTTTGTGGTGACAACGCCAAGAAAAGTGCAGAGGCCCCAGGGTC
 AGGTGTAAGTGGGTAGGTGACCGTAAACACCAGGTGCTCCAGGAACCCGGGCAAAGGC
 10 CATCCCCACCTACAGCCAGCATGCCACTGGCGTGATGGGTGCAGAGGGATGAGGCAGCC
 AGGTGTTCTGCTGTGGTTTGGGAGCCTATAAAGTGAGACTAGGCTGGGCATGGTGGCTCC
 CATCTGCAAAACCAGCACTTTGGGAGGCCAAGGTGGGCGGATCGCCTGAGGTCAGGAGTT
 TGAGACCAGCCTGGCCACATGGTGAACCCCATCTCTAAAAATATAAAATTAGCTGG
 GCATGGTGGCAGGTGCCTGTAATCCAGCTACTCAGGAGGCTGAGGCACGAGAGTCGCTT
 15 GAACCCGGGAGGTGGAGGTTACAGTAAGCTGAGATCTTCCCACTGCACTCCAGCCTGAGC
 GACAGAGTGAGACTCCATCTCAAAAAAAAAAAAAAAAAAACTCGAGGGGGGGCCCGGTAC
 CCAATTCGCCCTATAGTGAGTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 829>:

20 **GNMPE45TF gnm_829**

TTAATCAAACCTTTAATTCATTATTAAATGCCTGCAAAAATATATAAAAGCGGGTGGGTTT
 TCCCGACAAATAGTTTAAATGGAGCAGCTATATTTTTTTGGTGATGCGTAAAATCTT
 ATTTTCATTATTTATTTTGAAAAATGTATTAACAATAATGGAATTGGATATTGAAATAT
 CAGGTTTTTTTTGAATTAGATTATTATGAAGATAATTATAAAGTAAATTGGAAAATAAATA
 25 ATGGAAATTTGATACAAACGACTAATTAAATGGACAAATATAAGTTAGATTGGACACCCA
 AACCTAAAACCTGTCTGAACTCAATTTGGTTTTTCAGTAAGCGTAGGTTGGCTTAAAAAC
 CCAACCACCAAATGCCGTCTGAAGCGGTATTACGCTTTCAGACGGCATTTTGATGAATG
 AAACAGGATATTGAGAACTAAGTTCTTTAAAAATCCTACACCTGCTCCTTCCACGGCAGC
 ACCTTGGTCAAAACGGCAGACGGCTACAAAGCCATTGCCCGTATCCGAACCGGCGACCGC
 30 GTCTTCGCCAAGGACGAGGCAAGCGGAAAAACGGGATACAAACCCGTTACCGCCCGATTA
 CGGCAATCCGTATCAAGAAACCGTTTACATTGAAATTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 830>:

GNMPE65TR gnm_830

CCCGCCCATCATCGTACTGCCCCGAAAGGGACGTACCCGGAACCAAGTGCAAACACTTGGGC
 AACGCCGATCATCAAGGCATCAATCGGACGCAATGCATCAACATCGGCAATTTTAGGCTC
 TGCTCGGCTTTGGCGTTTCTCCACCCACAAAATAAAAAAACGCCCAAACCAAGCATGAC
 TGCAACACTCAAGGGGTAAACAGATACTCTTTGATTGTTTGGCGAACACAGCCCCAT
 CACGGCGGCAGGTATAAAAGCAATGGCAAGATTAAGGACGAAGCGTTGGCTTCCGGTC
 40 TTTTCCCAAGCCGTGCAACACATTGCTGAAACGTTGCCGGTATTCAAACACTACCGCCAA
 AACTGCACCGAGCTGGATGGCAATTTCAAAAACCTTGTGATTGCTGTGAAAACCAATCAG
 ATTGCCGAGTTTCAAGCTTCATGAAGCGGAGGTCAAACCGATCGACAGGGAGAAGGTGCCG
 GGGCAGGTGCGGGAAGGAAAAGTTTGCAGATTGACGGCGAAACCTGCTGAAAAAT
 CCCGAATTGTTGTCCCGCGCATGTATTCCGCAAGTGGTCTCAAACAATATTGCCGGTATC
 45 CGCGTTATTTTGGCGATTACCTACAACAGGCGCAGCAGGATAAGATGTTGGCACTTTAT
 GCACAAGGGATTTTGGCGCAAGCAGACGGTAnGGTGAAGGAnGCGATTTCCCATTACCGG
 GAATTGATTGCCGCCAACCCGACGCGCCCGCCGTCCGTATGCGTTTGGCGGCAGCATTG
 TTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 831>:

GNMPE66TF gnm_831

5 GCTTCAGACGAGCCATTTATTATATGGAGATTATAGTGGATTTCAGGAAGCGCGTTCTTTC
GCGCGGAAGACGGCAGGCAGTTTGTGATGCCGACAAAATTATCGCCGCCGCTACGGT
TTGGCGTTTTCTTTGGAACACGCTTCGGAAACGCAGGAAGGCGGGCGCACGTTCTGTATC
GCCGATTTGAACATTACCGTGCCGTCTGAAACGCTTGCCGATGCCAAGGCAAACAGCCCC
CTGTTGTACGGGGAACTGCTTTGTGCGATATTGTGCGGCAGAAGACGGGCGGCAATGTC
10 GAGTTTAAAGACGGCGTATTGACGGCAGCCGTCCGCTTCCTGCCCGTCAAGGACGGTCAG
ACGGCATTGTGTCGACAACACGGTCGGTATGGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 832>:

GNMPF05R gnm_832

15 ACTATCTTCTAAAGGTTCACTTTTCTCCAAAATAGAAAAGGCAGCTTGGATATTTTCAA
TGGCAGGGAAGGCAAATCTTCAACGAGACTGCCACAAATAGCGACAACAGGAACCTCCGAC
AAGGGTTCTTTTGTCTACACCAATAGGCGCTTCCCTGCTAAACTTTGACGATCTAGTCT
TCCTTCACCAACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 833>:

20 **GNMPF17F gnm_833**

TTTTTTTTTTTTTTTTTTTTAAAAATATCATTTATTCTTTTATAACAATAGCAATAAAT
TTATTATATGTTAACAGCAGAGTGATGACATCATCACGTATCACATAGCTTCTGGAAAT
TCCACCATACTTTTGTAGAGAAGGACAGATAAATGGTCGATAACATCTTAGTATTATCA
25 TGGAAAAGTTTTGATCTTATAGACCCCTCAACACCCAAAAGTCGTAATCAGTTCTACTCA
AGTAAGATTTAAATATATATCTATATTTTCTGGTCTGAGATTCTTTCACTTTACTCAG
AAAACATATACCTGAAGGGGGAGGGGGAGAGTGACAGATGAGTCTGTTGTATGTGGAT
GGTCACAGAAATGACAGAAAATAGTTATTTAATCTGAATCTGGACCCTGCTGAAAACCTGC
CGTGATTTCTCATAACACTCTCCTGCCCTTCAGAAAGTGAACCTGGCTGATAGT

30 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 834>:

GNMPG84TR gnm_834

CGATTATTCTGACAATCAGCATTTTCAGAAGTATGCCTAAAAGTGGAATCAGACCGGCAA
GTAATGGCATTATTATCCCTTGAACGAACCGAAAACGACAAAAGCCGACATAATGATAA
35 AGGCGAGCAGTACGGCAAAGCGGATTTTTTCGGCGTGACGCATAACGGCTCATAGCTTG
CCTGATATTGCTACCGAAAACATGAAAGTTTTTCGGCTGCGGACATACGCCGTTAGACG
GTAAAAAGTTATGTGAAGACCATGTCGTATCGTCTATAACCTGCGGTATGCTTATATCGT
GAAACATGCCGTCTGAAGGTATGCCCATCTGCTGACAGGCTATGATTTCCGGAAAATAAT
CGCACAAA

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 835>:

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GNMPH28TRD gnm_835

CGACGTTGAGTGCCCCCTTAACCTAACTCCCCGTGATAGGGTGCCGAAAAACGTAAC
GGTGAATGCTTGTGGAAATCGTTAATATTGTATTGTTTCTCTGCTTAGCGTGTTCGT
AAAGTACTTGGTATCGTCTAGTTAAAGATCGTGTGTGGCTCGTTGTACCCCTGCGCCT
5 GCGTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 836>:

GNMPH38TF gnm_836

GCGCCCGCCAAACGCGGCAAGCGGCATACCGGCGCCGATGACTTTGCCCATCGTGGTCAG
10 GTCGGGCGTGATGCCGTGCAAAGATTGCGCGCCGCGAGCGGACGCGGAAGCCGGTCAT
CACTTCGTCTGTAATCAACACCGCGCCGTATTTTTCGGTCAATCCGCGCAAGGCTTTGAC
AAAGGCTTCGGTCGGGCGGACGAAGTTCATATTGCCGAAGAAGGGTTCGACAATCATTCA
AGCCATTTTCACTGTATAAAGTCCGGTCATTACCTGTGCTTTGCACCTCTTGAA
ACCGGGCAACGGCTCAGTGGCAGGGTTGGCAACCAAGTAACCGTATCGCCGACTTTCGC
15 CTGTCCCAATTCTTTACGCCGGTATTCAAAAAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 837>:

GNMPH48TR gnm_837

GTCCGATTTGCCGACnAAACCGGGCCTGAAAGTGGACCTAGAGGGAAGAACGCGTTAAGA
20 GGACAACCTCGAGCTGTTAAAGACACCTGCCTAGGGGGTAAATGAGTGGTGAACCGGTA
TGGGGTGTTAAAGACAAAACCTACTGGCCAGAGGGGTAAAGCCTACCCAACCTAAAGTG
GTAATCACATGCTTATAAAGACTCATAATACCAATGTTTCATACCCCGGTGGGGCTGATA
TTAAGACCTCTGGGTTTGCTGAAATGGGCATCAGTGACGTGGTTGGTATTAATCAGAATT
AACGTAATAGTGCATATGGGTGGAGTAAACGTAAGTAACGTTACCTACCGCGTAAGGTTA
25 CAGATCAGATGGCTTGCACTAAACCTCTATAAATTATTACTCAGCTTGTATTACTGTTG
CTGTTGGGAACGGGAAGCGGCTACCCACATGGGGGTAGAAAAAGTGGCGAGGCTTGCA
GTGATCCTTGTAATAGACGACAAGTTAATTTGGGGGCTGGCTTAAATCGAGACCGTCTA
TTGGCCGCGTTATAGAACCCATGTATAATAGTGCTGAAAAGATCAAGCGCAATAGTGGTA
CCAAGGGTAGACTCAGGGGTGCGGCAATACAATGACCGGGACGAACCAGGCATTCTAA
30 ATCCCGAAACTAGGGnTAGTTGTAGTAGAAAAGGCAGAATTGAAATTACTACTAAGTTTT
AGATTGnTAGTAGGATGCCTTCGATTCTnTAATCTTAAGAGACAGnGTGGGAAGGGTGGCA
T

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 838>:

GNMPI02TR gnm_838

AAGAAAACAAACCTCGCCCCCTTCTACGCCCCAGGGAGCGACCATAAAACGAAACTGT
CGACGCGACCACACTGGACGTCGCCTAAGTGATTGAAAACAGAATCCCCCTAGGTCGT
TCCCGCAGCCAATGGCAGAAACCCAGATAAACTTTGACCGTGATCCCCAATATACTCCC
TCCACCGTGGACAGAACATCAAGCAACGACAAAGACGTCACCGCCACCCCAAGGATGCCA
40 GACCGACCACGAACAATTTATAGCAAGAGAATTTACCATACCACGAATGTTGTATAATCT
GATTACATTGTTAAAGCCCCGGTCGAAACGTCGATCCCTAAATAGTTGTTGACGTTGCT
TCTCTTGTTACCCGTGTGAATATAAAAAGTCTGGTAGCTAAGACTGTTATGCAAACTGT
TGCAAAATTGTTCCCGTTGTGTCGTGTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 839>:

GNMPI04TR gnm_839

5 TTGCACCGGGTAAACACATTCTTGACACCACGCTCGAAAATGGACACCTTACAGAGTAAA
GTGGCCCGGAATATCGTTAACACGTTGATGATGGTAGTGGCCCTGCGCGTAAAGCCTTG
AAGGATGTCACCCGTGTCACGGGTGATAATTGTGATAATAGCGTTGACCTGTGTCATCGGG
GACCCGCGGACGATAAGTCGGCCGCTGGTAAGGTAACGCCTACCCCGACGAATCCTGGTG
ACCCCTGGTAGGCTTGGCATGGTAACTTGCCAGGTTAGGAAGTTAAGAACGTTGCTCGAAA
ACAGCCCTAGATGGTACCCGTCACCTTCTATCCCATAGGTGAGCTCAATGCCGCTGGAC
10 CCCTTCACTTAGCTTAACACATGTAGGCCCCGATGGTGAATCGTTAACACCGTTTC
GACGAACTAACGCGAAGATCGTTGCCCTAGTGAATTGAGGCAAACCGTTGAAAGTGCTA
GTGTTATTTTCGTTTATCGTATGTTCTAACTGGCCCGTTTAAATTGAAACAACCTGACGA
ATA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 840>:

GNMPI06TR gnm_840

TTTGCGGGTCCCGCTCCCGTAAGTAGTCTGCTGTGGGGTGTGACGCCGATGACACCTTT
CCGTCGGTGTACACTGAGGCCGTGTGTTCTGACAAATAAACTTAAAGTTCGACTTTAAGG
TATACTTCCGAGGGAGAGGGCTACCCCGTTGCCGATGGAGCTGTCGGTAATAACGCCTAC
20 CTTGGACCTCCCGTTAAAACTCGTAGGACGGCGTGGACCCTGATACTCCGGAAGCTAAG
GGAGACCCCTTGGTTCGCGAAGGCCCGGGTGTACCGCTATGTTGTTGATCTGAGGCC
CCGCCCCCTGGTAGGATCCGGAAGGCAAAGCACTTGGGTGTGGTGGACCCGCCGATGAG
CCTTTAGCCGTTGGTCCGCCGACAACCTAGTCGGGCGCTGTCACCGAGGTGCCCTAGTGC
AATCCCCGAATTGGCGCCCCAAAGCTCGTTATACTTAAATCGTGCCGGAGTGCGGCTGG
25 TAAGGCACGGCCCCCTAGTGCAATGACGACGCGGTTGCGTCGCCGGTCGACGCAGGGTCG
TTTGGTAAAGTTTAACTAGTTAACTGACAACGTTGGTACCCCGTTGCTCCCGTGGA
AC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 841>:

30 **GNMPI11TR gnm_841**

GTTCCCCCTAACACAATCCCGACAAGAAGGCACGGTAACGATGTCGACAACGTTGAGCAC
TGTGATGATCACTACTACTCTAACTAACGCAAATTTCCCCCGCCTTACCCACCATCTAC
TACCACCGTCCATACAAGACCGAAGGATGATTATGGCACCAGTACCTCCATTTTAAGTTC
CGGTAGCAATTTGACAAATACCCCTCTTGCCCTCCTATGTTTAAACACCTGACAACACAAT
35 GCGGTACCCCGTCGATGTCTCTGCGTTCCCTCCACACCTTACTTTCCCTCCGCTAACGT
ATAGGCTGGCAGAACCCGTAGGGTAAGAAATGTCCTATTGTTCTAATGGCGGGTCCGTTCC
GTATTATGACACCGCTAAAAGTTCTCTACCACTACCACCCGCTTGATACCTATCGTGG
TATATAGATTCCCTTTATAGCCCTGTCAAACGCAATTCCATCGCTTGCACTACACCTTA
AACTTAAATTCGAAGCCTGTTCTTTGTAAAGTTGTTCTGGTTAAAGATAAAGTTAACC
40 CTTGCTCGACCTGCCGTATCGACTTGTCGTCTGGCACCGCAAGATCGTGTGGTAGCCA
T

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 842>:

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GNMPI15TR gnm_842

GGGCCTAAGGTGCGACCCCTCTGGATGACCCGATCACGGAGGGTGTGCGTGGGGTAGGTG
GTACTAAAGAATGTGTTTGTACCCTTCCCGAGGTAGGCCGTGATACTGCTTCTGCTCGTA
ATTGCTTTGATTCCGCGGACGAATCGTGTGAAGACCCTTGACCTTCGATAACTTTATCC
5 CGGTGTAATGCCGGTAACACACGGTTAATATGTCTGGTAGCGTTGTTGTGAAGTTGCGA
CGTAGATGGTGGACCCCTAAGTGGTGTAAAGTTCCCGCCGTTGGTTCCGTTCTGTTGTAGG
ATATGGTGGGTGGTGCAGAAAGCTGGTGAAGTTCCCAAATTGGTTCGTGCCCTAATAACTC
GTTGACCCTACTAATTGCCCGCTAGGGAAAGGTAACGACCCCCCTGGCTAGGCAGAAAGC
CACTCCACCGAACCATCCAAAGACAACGACGACCACTAATATCGCACCTAAATATAATGC
10 CCAAACCTTGTGTTGATATGTGGTAAAAAGGTAAATGGCACAGGTATGTTGTATCCCCCG
TGTCAAACTATGTTCCATCCAACCTGGAACGCAGTGTAAATTTGGCAGTGTATCCTGCCT
GGGATGAAAGGGGTGGAGGCCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 843>:

GNMPI18TR gnm_843

TTCCGCCCTCCTTATGTCCCTTATCCTTAACTTGACATTGTTGCGTTAAGTATGGGACTT
TAGCCTATTAAGTCCCGTTGCGGCAACTAAGTTCCGTCTACATAGGTGCTGAATATC
CTGGCCATGGCCCTGGTGTGTATGCTGCTTACTGCGAAACATCTGTCTGCTTAGCTGGTA
GAGTAGTTTATGTGGTGTACCCGCCGGCAACTGCGTTGCTGGAAATCCTCCCTTACCTT
20 TATATCCCTCTTAAAAACCCCTGTGATTTAAGCTACGGTGGGATATGCCCCGTGTAGTA
AGTCGATGTCTAATTATAACTCGTGCAGTACGTTTGTGCGGCTCGCGTTGGGAACCTAG
GTGCGCCGCTAGTTCCCTACGTGGCAGCAGTGGGCTAGATTGCTTACAACGGCCCGGCCG
AAGGTACGATTTACGCGTAGTGCCTTGGCCAT

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 844>:

GNMPI22TR gnm_844

TAGCCGATAAATGGTGCAGCCCGCCCTGTTACAAGTTGTAACACTAAGCCACAGTGGACC
AAACCCAACTAGGTAAGGTAATGAAGTTGTAGATAGCATAAACAGCATGGTAAGGTGA
GACAATGTTGCATCGGCCCAAACCAACTTATCACATAGACAAATAACGTTGCTCGAATG
30 TAACGCGCTAGATGGTACCCATCCACTTATAGGCCCGCTAAGTTCCAGACCCCGTTCCG
TGAAGCACCTTAAAGCGTGGATGAGCCGGTAGGCGCAGGATACCCTGCCGCTGCATTAGG
TAATGGCCCCCTATTAACCGCCCCGTGTTTATGGCTACTATGTGGGCCCGGGCTGTACTGA
AGAGTGAGTTGCACCTGACGTTGATAATGCTGGAAGAAATGACCCGACTCCTGCCGCAGT
TGCAAGACCTGTCGGTGGTGGTCCCTACTGTGGTGCCGACCCTCCTCCCGGCCATAGGGT
35 GCCTGAGGACGGAAATTAACCTGGCTAGTGAGTTGTCGGTAATAGGGATGTCCCGGGTGG
AGTTGCTGAGCCCGTTGCCTAACCTGGGGACAATTAGATTGACGGTTCCGGTGGTATTGG
CGTCGCCGGGTATGACGCCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 845>:

GNMPI23TR gnm_845

AAAATTTCCGGTGCCATTTAATCCAAGTGTCCGTAGTATACTTTTCCCTGTTAAGTCGG
TGGCAACAGTGAAAGAGGTTTGTATTGACTGTTTCTTTAATAGCCGTGTAGTTTGAACG
GTGAACGGTGTTCGACGTGGCACCCTCTTCCATGTACTCGCGTGGCACCCTATATTGTA
CACGGCGTATCTCTAGCATAACTCGTCTCGACGTTGTACAGCCAAGTTAGTTTTCATTT
45 GTTAATATTTGCCGATGTGTTTCGATGGGTCCGCTCGTCTTTGGTACTTGTCCATAGATA

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AGTCGCGATTGCTCTTGGGAGTCGTACGCGCTAGAGGCCCTATTGCTACTATTGAAATG
TGTGAGCATGAAAGGGTTCTGCGACATGTTACCCCCACAGGCCAACGCTACGACAACAA
CGGCCCTCCAGATGCTAGGCGGTATCCCC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 846>:

GNMPI27TR gnm_846

TTCGTCAAACCAAAGnACAACCTACAGACACGGCAGGGCAACCAGAGAAATATTCCACACC
GACGCAGCCGTACTCGACGCCAAAAACAACCTTACAAGACCAAGTCCGGCCCGCGGCACC
TACCTACACGTCTTACGCGTTAACCCACAAAACCCGTAAAAAATTTCGCCAAAACCCAC
10 CCCCACAACCTAATTCTAAGGAGACCCACAGACAACGCAACACCCGAAACCAACGACGGA
AATAAAGCCCGCATCCGCCAGACAAGCACAAATACCCCCCTCCACCGAAAATAGCGCC
CGCACTGCACCAACCACCCACACCCAAAACCCACCCGTCCCCACACAGGATCCATCCT
AACGAGCCGGAACAGCCCCGGCAACCCACGAGTGTATGTCTACTTGTGCCAGTAGAACC
CGGAAACACGGCCGTCAACCCAGCCCTCGTAAAAAACGAGAAAGACACTCTGAAATGCAA
15 CGAACACCATAAATAAGTCGCCACAGCGTACCACCAAGTACCCGGCAACCCGGTCAGCAA
CACCGTATTAGGCAGCATGCTACTGTACCCGCAAATGGAATAAACGTTCTCGCGACCGT
AAGTTGCTCTCTCGGAACACACTCCTAGTCACCTAGGAGTACAAAGACGGCAAAGCCAA
CACTAATTGCCCTAAAACACCCCAATGGACCCACACCTA

- 20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 847>:

GNMPI28TR gnm_847

AAATATAATCCGTTTAAACTGAAGAGGCCCGGTCCGTTCGTTAAGAAGAACCAGGAATAGA
CCGAAATCGAACTGAGAAATAGCCCGTTGAGTGACAAAGAAGTGTGGGTAGGGCGTCCA
CTCCCGTTTCGTTAACAATGGCACAACCTGGGTGCCACTATTGGTCCCCATTGGCACAAT
25 ACTAGATCCCCCGTTGATCCGGGCTCTTCGCTTTCCTTGGTGTGGTGGTGTAAAGTTCAT
GCACATTACCGTAATCTAAACGGTAAAGTGACACATACTAGTTTTAGTAGGACCGCGT
CTTGACGTGGACCCATTCAAACTAGTAGTTACTAGGGAGGTGGACATTGTTGAAAACC
AAAAATCTAGCCAAGAAGTTAAACATATACAGAAAGCAAAAAGAAAAATAAAAAATTCT
GTTGGGCAAAAAGAATAAGTAGGTCGTTAAAGTTTTGAAAGAAAACCTAAAGTAATTAAT
30 TGAAGAAAAGTTTGCAAAATGTTAAGAAAGTACCATAAAAAACATTAAAAACTAAAC
GACCACTTGAAACTAAGTATACCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 848>:

GNMPI29TR gnm_848

CCACGGCCCTCAACCTTAGCGACACCACTAATCCCACCTAGACGGGCACCCTAAAACTAA
TCCGTCGCACTCGCTACACCAATTCCCTACCGCCCCCACATACAGGGCATCCCCCTCCA
CCCAACCTACTCGAAAGAGCTGGCAGCCCCCGGCACCCGGCAACTTTAATTACAACGCCC
ACCGGATCGCTCGAACGGCCCACTCACAACCTCAGTGCCTACAGCCCAGGCGAAAACGCA
ATCTTATGCCTTAACCGAAGAAAAAGACCGCTCGAAAATCAAACCCAACCTAGACGATT
40 CCAGACCTGGACCTAAGCGTAATATCAGCGCACCAGCGCGCGGAATAGACCTAAGAACA
AAATATCCGGTGCCCTGCAGTTAAGCGCCCCCTCCGGCTGGCGGCCTAATCTACTCCGAA
TTTCGTGCACTCTTTGACTATCGACGCCATGGAAACTGGCCCCCGGGGAAGCACCGTT
GGACGAGCTTGCCGCGCCTCTACCTAGTTTCCCTCTTAAAGAACGGCCAGGGTGATAAA
AACAAGCTCTTGTCCCTAACGTCCCGGCCACCCGGCGCGCGGCAGAATCTCCCGTTGC
45 CACTTACGGCAACGGCGCGTATTTGCTCCACGCGTTCCCCAACG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 849>:

GNMPI31TR gnm_849

5 GCGTGGnCCCCACGGTACCCACCGAAGGTGCGCCTGACCCGAGCGAAAAACGCGCCAG
CCCCACCCTAGTTCCCGTTCGACCCTACTAGAAATGGCAACCCATTTGGGTAGCACAGTT
GTGTGGACCATTGGTACAGAGCTTGAATGTTAACACCCCGACCGAGTAGACCGGTCGT
GGTAAAGGCAATGCCAATACCCACGGCCTTAGTTAAGTACGGTACTAATCTGGGTAAA
GTTCCGAAGTGCAGCTATCCTCCACCCTCCGAGCCGCAATTGCAGTGCCCGTTCGCATT
GGCCATGTTGACCCTGTTGCAGAGGCCCTGGCTGGGGCACAAATGGAAAAATAGGCCGTT
10 GGCAATGCCGTCGGCACCACCTAAACGGACGTTTATCTGGCTGGGACCCCTCCCGTCTCT
AATGATCCCTGTTTCGTAATATGTTTAAATGAATTGTGTAGACAGAGCCCCCGGGGACGAC
CCGTTTGACGGTGGATAACCTTATGTTGTGTGACTGGCGCCCGTTGTCAATTGTACAAAC
ACAAGGGCCGCCCCCGGACTGGGGTGGCAGTGGACACCGAAGTGCCTGACCCGGCAGGT
AG

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 850>:

GNMPI32TR gnm_850

20 TTGCCTTTGTTGCGTGTGCCTGTTTGCTTGTGTTTGTATCTGTGCCCCTTCGACCTCGTC
GGGCACCGTTAAAAAACGGCGGTTCGGTGGGGACGTCGGTGGAAAAATCGGGCGCTGTTTGC
ACCCGAAAACTTTGTTTAACTGATGGTTCGGGGTGCACCGGGTGGTGCATGGTCACAT
TCCTTAATCTCCCCAGATCCCCTTGGACACCTTGACCCGGCCACTGGTACGGTGACGTC
GTCCGGTCCCAGGTCGTTTAAAAACCTCTTGTATTGTCTGCGTCCCAAATACTTGTGT
ACCCCGGGATAAACGGTATACTAGTTCCTTATTTCGGACATGTGATCATACTCATACTTT
25 TCCGGGTGGTAGTAAAAAAGGTCCCCATGGATATAGTCTAATTCGACGGTGGTAACGGC
GTCTCTAGGTACTCGGTATGGTCATGGTCGGAATCCTTACCCGGGGTGTGTCGTATGG
TATGGTATCGGCGTCGCTAATATGGGTGATTGTACCCCTGGATGTGATGTGTACAGTTG
CTCGAAACATCCTGTGTTGTCTCTACGGTCTACCATTCCTTACCCTGCTCGTTCCAGTCC
CGCTGCTCCTAACATTGTAACTTTGATGACGCTAGTGTAGCCCCTAGCGTTTCTCCCGT
TAACGTTAATGGTCGGAACGTGTT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 851>:

GNMPI33TR gnm_851

35 GTGCAGTTCTGACACGCATGGTACTACGCCTAATAATTACTTGGATCCGTGTTGTACTT
CGATTGACCATGGTCTGCTGGATACTTGCCCTGTAAAGATCCTTTGACCCCTGGTCACG
CGGAAACGTGCCATGATGAAGAGTAAAAATGTGCGACCCATTAATTCGCCATTACCGAGT
TGTGTGAGACTATGTTGTGCACTGCTTGCAGGAGAATCATGGCGGTTAACAAACCAAGA
AATCATATTACTAATCCTGGTTTGTAAATTTTCGTGGTGTATGGTGCACCGTGCACGACC
CCGGAGTCGGATGGTGAATAAACTGCTTGCCTTGATTTGTACACTGGTTCTCCGTATTGA
GGCATTGAAAAATCGGTGGAAATTAAATTCACCTCGTAAGTTTCGTTTCACACGGATTG
40 TCCGATCACGCCCTTACGACGGCTAACGAGTAGGTGCACCGCCCGGTAGCAGAAAAATC
CGCTGGCACTGACGCGTTTACTTGTGTTTAAACATACnTGTGCGACGCCCGTTGAAGCAAT
GTGTACTTCTAACTATCCGACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 852>:

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GNMPI34TR gnm_852

5 TCCACTCGGATAAATACTTGTACTACTTCTATGTGTATTAGTTACTTTGTTAATACTGGTC
TCGTTGTGTGTGTGACGAAAATAACGGGCTCGTATAAATCGATTACTGCTGTTTTAACT
CGACGGTAATGTTGACGATGGAATAATTTGTTTGCGCCGATTGGAGTACTTCTAACTGC
10 CCAAACCATTTGAAGAAAGTCCTACTTCTGTCCTTGGTGTGGTAGATGCCCTGGAAAACG
TTATTACCGTTTCTCCTCCCGGATGAAGTTTCCGTTGATATTACTGTTTCGTGTTTCGA
TTAGTTGATGATGTGAAACCATCGTGTGGCGTAAATTTGTGTGACCCGGCACTTGAAC
CATCGTAGATTGTAAATTGAGGTGAGAAAGCGGTATCGGCCCTGGTAATGAGATCCCTG
GTCCGAGTACTGAAGAAGCTTAAGTTCGTAATTGATCGACGATTACTAATGGTAACTTTG
15 ATCACCCTCTGCTAATTCTGTTAAGTTGCGTAAGCTGCGCGTCATGAAACTCCTAGTT
AAATTGGCCTGTTTACGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 853>:

GNMPI35TR gnm_853

15 CTGGCCTTTGCCTGTTGCGGTGGGGGTGCCCGATGATGATGTGCCCCCGTCGCCCCGGT
GCGTGGCACGTAGGAGCGTTGTCTACTCCGTGCTGTTGATGAGTTGGCGGAAGCAGG
CTACCCTCCCCCAATGGTGGTATCCCCGTGGTGCCTGGGACATACGGGGCTGAGACAGA
TGACGCTGGGCCCCGTTCCGCGCCCGGATAAGCGTGGGTACCCGCCCTGGTGGTGCCGTTGA
AACGGAGGCCGACGCGTGTGGTGGCGCCCCGTGCCCTGGGACCGAGGAGGGTGTGGTGGA
20 CGTTGCTCGAAAGTAGGTAGGTGATGGTGGGACGCCGTCTGAAGGTGGCAATGGTTAGTT
TGAGTGAGGTGAGGATGAAGTCGCTGTGTTTAACTTCGTGGCCGTGCCTTAAATGGCGG
GGCGTGTGGCGCGGCCGATGGTCCCGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 854>:

GNMPI36TR gnm_854

25 CTGGCCTTCGTAGCGTTAACTTAAAGTTCGCGTGTGAGATTGTTGGCCGTGGTAGAAT
TGGTACTGTGGGCCCCGTAGGGAACGGGCAACTGCTGAAAACAATTGGTAGGCCGTTGTAA
GCTCGCCCTACTATGTTGAAATTGAGTACACTGATAATGAGGCCGCTGCAGTTGAAGTCG
TCGTTGTGCCTGTACAAACTAGCCCTTTGCCGTTGGTCTGCGGAACCCCTTATAACG
30 CCCCCTACCCGAGAGGGGTGAGGAATCGAGGCCCCCGACGCCGATGATGCCGTTAGCC
CCCGTTACGGTAATTATCAAATGGCTCGTTGTGTAAGAAAGGTGGGAAGTCGGACGATA
CTGTATATCCTGGTGTGAGGCGCGGTATCGACGGGGCTGCGCATGCTGGCAACGATGGGG
ACGTTGAATCTCGTCCCGATCCCCCTAAAACTCCCAAGTTCCTCCTTAAGTTCATGTTG
TGACAAGAACGGACGGAGGAATGGCCCGTTCCGCTGAAAGAGGTCCCAAAGACACAGGGA
35 ACATTGAGCCCTGGGCAATCCTGATGCAACGTGTGTAGGCCCGAGGGCGGAACCTAAG
TCCCTTAAATGCCGACGTTGTTGAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 855>:

GNMPI37TR gnm_855

40 TATTTAGATACAATGGCTGTGCCCTACTCCAAGTATTATGGTGTATACAATAAGGT
CATGTTCTGTTAGTACCCGGCCGGCTGACGTCTGAATAAAGGTTAGAGTGAGCCGACGTTG
TTTAATGGGCTGGCTATGTTTGCAGAGGAAGCAGTTTTATAACGTTATGGTGAAGAAG
GCTGTAAGTGGCCGGTGGGACGGAGCTGGCGCCGTTGAAAGGCCCGCAGAAGACGTCG
TTTAAGCTCCGAATACAAATGCGTGATGTGTGATTGGTACTGATGGTGGCTAGGACG
45 AATAAGTCCCTAAATAATAGGGTGAAGCGACATTAGAATGTTACTACTGTTCTGTTTGA

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ACTAGGTGGTCTACAACGCGTGTACATTGATCGTGAGGGCGGGTGTATTGCTGGTATGG
GAAAGGACGGCGCCCCCTGTTGATCCTCCCAGTAGCGCGTAATAGGGCCGTGGTACTGATA
GGGAACCGTAGTCCGGCGGCAACTATCCTGGTGGTGGCACCGGTAC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 856>:

GNMPI38TR gnm_856

ACTGAACTTAGTTTGTAGGTGATGTGGCAAGTACGGTGTATAGCTCTTCGTACACTTAGT
GTGCATAGACATGGATGGACCCTCCTAACTGGTAAATCGCGGCAACTGGTAAGTTACTGG
ACGACCCTCCTTGAACATTGATGTAGCAAAGTCTGGCGTGGCCGTAGGCAGAAAGGACC
10 ATTGTTCTTGCCGTTGTACCGTCCCTGGGTAAGACCGTGGATGGTCCCAGGTAGGGTGGTG
GTGGTAAATGTTAGTCCCCCTTTGCACGTCCAAAGGCGTGGCCCGACGACCGAGCTTGATA
GTGGCAAGCCGTACGAAAAAACTGGCAAAGACGAACACAGATTGCCACCACAGTTCAATC
GTCCTTCCAAAAATATGGATAAAAAATCGTATTCTTGATTGTAAAAACGTTGCTCGAAGGC
GTAGCCCTTGCCCGCTTGGTGGCCGTTGCTGGGTAGTTGGGTGGCCCAACTTATCCTGTT
15 TGTGCACCGCCTGGTAGCTAGTAGATCGCTGCAACTGGTAATGCCCGTTGGCCCGAGCCC
GAAGAATTAGTTCGTATTGCAAGGACTGTGCGCCGTAGCCCTTGAGAGTGTCCGGTAAACT
CCTGCCGATGGTAATGATCCTGTTCTGTAACCTGGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 857>:

20 **GNMPI39TR gnm_857**

TCTGGCCTTTGGTGGCGGGTACTACTAACCTGCTGAAACTGCGTAACCTGCGGGTGGTGG
CTGTTACCCGGATGCCGCCCCTGATGAGCATCCTGGTGGCGTGGCTGACGAGCCTGGGGG
TAACTAGTGGTCTGCTATTTGCGATGCCTATAATAACTAAACGTGGTGGTAGTCCTAGTG
TGATAGAGGTCCTGGTAAGGTGTGCTGCGTTGTCCCTGCGTTGGCCCGAAGCTACGATGA
25 TCCTGACATTGCCGTGTTGATAGGTTGCTCGAACACTGGGACGGCTGGCGGTAATGATGA
TGTGTGTGGTCCCATCCCCCGTTGTTGCGCTGGTAATGTGTATGATTACTGGCCCGTTGC
GGACGCTTGTAAAGGTCCCCTTGGGTAGGTGTGATGAACCTAGTTGTGTTGGAACCTAACA
TGATGAACCTGGCTACGTCCCGAGCCTTCTCCTGTCTAATGTCTGTGTCCTGCCCTTAG
TACACAGGGAACGTTGCTCCCAACTGGACAGGTAAGTCTGTTTCGATGGTCTTATAACCT
30 TCGCCCGCTTCGACGACACCTTAGTTCGTTCCCGGCAATGGGGTAGATGAGGACGCTCAA
GAACCCCCCCTTACAGGGCCGTCCTGGGCCCCGACGGCCTAACTAACTGGACGTTTCTC
CTAACACCCTAGATGGTCACTACCCACCCTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 858>:

35 **GNMPI40TR gnm_858**

CTAGTCTGCTTCCGCCCTACACATCGTATACTGCATTTGATGTGTTTCGCTGAAAAACAA
GTGCAGGGCCCGCAAGCCGCTCGACGTTGGACACGTGGTAGTCCGTTGCTGCCAACTAAT
CGGCTGGACATACTTCGTTTGATAGATCCAACCTTGCATACAAAACCTGTGTACTGCTCTC
CCTTGAACGATGAATCTGACCGTGGGTCTGCTTTGACGAAATACCCCACTGATTTGGATG
40 TCTAAGTTGCACCTCCTTGAAAGTCTTTGCCGTAATCTGCGTACAGTGGGTGACGTAGCT
CGCCCGAGGAACCCCAAAACACTTCGTCTTCGTGCTCGGTCTACCACTCGTATTAGTTGC
CTCCCTTATCCGTTGTTTGTCTTAAACATATCGGCAGGGCCAATTTGGGCTCTAAACAC
CCTCCACTTGTATCTAAGTTCCTTATAGGTCGAAATATACCACTAGTACTAGTAGGGTA
AATGGTAGGGAAATAACTAGGGCTACAGATCGTAGGCCGTTGAGCTTGCTTGAGTGTACT
45 AGTAAATGGTAATGGTAGATACTAGTATGTTTTATACAATTGnTCGTTATTGCGGTGTG
TCTAAGTTCCCGCTTTGAGAGGCAACACCGCCTA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 859>:

GNMPI41TR gnm_859

5 GCTAACGTCCGACCCCTGGCCCTATCTACACCCCTTCCCGCTGGCAAGGGACAAGGAC
GTGGCGTGGGTCAAACTTGTATCCGTTTGTACACACAGCGGACCAATAAAATTAGCAT
GGTGCCGTTCTGTTCCAGTCTAAAGAGAATGACCTCTCAAGGCGTCGAAGTATTAAGCGA
GCTGGCCTTGCATCACCCGCATCGCTCGTGGTCCTGTTGCTCCGCTTCGACCCCGCCAA
CTTATCACAAAAACAACAAAGAACTACAAATGAAACCCACCACTATACACCCCGGAAAA
AACACTACCCGTGCGACGCCCCCAAGTAGGCACCCCATCACCTCCCATAGAACTGGGACC
10 CCACTAAACGGGCCTGGTAGCTGGTGGATAATTGTCTAAAAACACCCCGTTGGATATT
AAGGGCCCGCCTACATCGTTGAATTCGTTGGCCCGTACTTCGACCGGGCGCACTGTTCC
CCGCTTCCACAAACGTTGTTATCCACACCCGTTATCCCTTTGACGAAGTTGCCCGTTGAA
AACACTTTTTATAGTTCCTGTGGTAATCGTCGTGATGAA

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 860>:

GNMPI42TR gnm_860

CCCATTGGAACGAAGTGCATTAAAACCGGCATCCAACCTCGACCCCTTACTGTCGTTTAC
AGGACATCTTAAACTAATAATAGGACCCCTTCTCCGCTTCCCAGAAACAATCGGACAAG
TATTCGAACGCACCTTGCCCTAATAACCTCCGAGGACCAACGCCCCGACCCAAAGCATCTC
20 CATTCCTAACGCAGCCCTCACGCTTCGAAACACGCCCTTCCGAGTCTTACTACGAACCC
CAGCTTTAACAGACCCCGTCCCAAACTAATACCGTGGGCCCCGAAATACCTCTTACTCA
TAGATCGAGACAACCTCGAAGTAGCGCCACGTCCGCAGGAGCTCGAGAACTTTTATCAA
TTGTAGTTCTTTTGGCCCCGTTGTTCCCGCTAGGCCCCCGATCCCGGTAAATGGTAGGA
TGCCGATTAGGGTCTGATGGCCCTGGTGGTACCGGGGCCCTTCGTACTTATCGGCTAA
25 TGGTCCTGTTTGTGTCGACAAAGGGCCGAGTGTGTTGGTGGTGTGTTGCCGACAAATC
TTACGTCGCCGTTTTAATGGCTGAGTCCGGTACCGCTCTGAATACCCCTCGCCGGTCC
TACTGGTGTGGCTGGAGAAACCGTCGTTGAGGCCGTCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 861>:

GNMPI43TR gnm_861

AACTAGGATGGACGGCCTACATGGTACGGTCCACCTTGCCCTTTAAACCCTGCGTGGAAC
GAAATCTCTGTTCTGCACCGTTAAAGTACCGCGCTTAACCTTCGAAGTCGTTTGAATGA
AC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 862>:

GNMPI44TR gnm_862

CCGTGTTTAGCAGCGGGCGAGGCAGAAAGGTCGTTGTGGCCGCTGAGCCTGTTGGTCCCA
TGCCCAAGGTGACCCGCTGCCTAATAGTAGCCCCCTGGCGGTGCTACTTAAAGCGCTGGTG
AGGATCCGGGTCCCGGTACCGTTGGCCCCCGTGTAAACGCCTAAATGACCTGGTGAGC
40 GTGAGGAACCTGTTTAGTGAGCTTTAGTGTAACGGCCCCCTCCTGAGGAACCGCCGAATA
CGCCCTGGCGTAGAATTGCTTGTGTGGCCCTAAATACATTGTTGTTGCCTACTAACGGA
ATGACAGATAGTACCCCTGTGTCCGCTTGAGCCTTAAACCGGGAATAAGCTGGCTAGG
CAGCTGTGTAAGATACCATTGGCCATGGAGACGGCGCTCCTGTTGCCCCCTAGATGATTT

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AAGTCGAATCCGGTGGTCTCTAGGAGTGAGGATGTGGACGCTGAGGTTACCGGCACTT
AGCCTGGTAAGGCAGGTCCCAATTCGGTGAGTAGGTCTCCGCTGCGTGGATGGCCCCTG
CTGAGTTAGAATATGGTAGGTGCGCC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 863>:

GNMPI45TR gnm_863

TACCCCGCCAATTATCACACCCTAAACCTTTCTCTCCCTACTACCACCCAAACGTCCT
ACCAACACAACCAATAAAACCTTACCCTTACATATTGACGCAGAAGAACAATAAACCAAC
TCACCCACAAATCTTGACCTCCTTCTACTGGGCCACATCTACTAGAAACATCTATCGAAA
10 CACACGTTCCCCATACGGAACACTATCAGATAGCCGAAAAGTAACTAGCTAGCCTTCGCC
AAAAATGTGCGCAGAACCCCTTGTCCCACTCTAACTGGATATGGCCCTAACACGCTCCTTT
TCCTAAACATTAACTGCTAAATTCGGCTTAGTTGACCAATTCACACTTCGATTGCCGTTG
GTGTGATCGCTGGCCCTGGTGTGATGCGGTGCCCTTTGCACCCGGCTGGCGAAAATGGCG
GCGTGTGCACGCGCCCCACCTCGCACTGTGACGTGCGCCACTGGTACTTTGACGACCCC
15 GGCGGAAAACGCTACTGGATGGTGTAAAGGTGCGAATGTGTGCGACGTGCCTGGTGGTTT
GACGAATGGTAAATTTACCGTTAAACCCGGAAATCGGCTGGTTCGGACGGGTGCTCTGGT
GTGCCTGGTACTACGGTCCACCATACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 864>:

20 **GNMPI46TR gnm_864**

CCCCGAAAATTGACCCTTTCGTAAAGTCGTCGCTCGTTGCTGAAATGTGCCGAAGCATG
GCGTGGTGTAAATTGAATGGGGTTCGCACCTGATAAGTCGGGTAATAGCGTGGTGACCTAG
GAAACGAATTGCGAGGCAGGGGTCTGGCGAAACGCGTTCTCTTTGCATCCCCGATGGGT
GAGGTGGGCTGTTGCCCGAAATGGCGGTATGTCACCCTTACAAAAATGGCATGTTGCGG
25 GCTAGTTTGGTAAGGGCTGAACACTCGACTGACACGTTGACGGAATCGCCGTAGAAGGTG
GAGGGTGGTGCCCCGCACGCTGGTGATACTGTTTAGCATAGTTGTAATACTTAAGTTGGC
ACCGTTCCCAACCGCTGGAAAGGTGGAATATTGTTGTGCTAGGGCGGCTGTACTGGGTAGT
AGGGTGGTAGGCCTAGATGGTACCGTTCGTGAGGAAAAGTCGGTGGAAATCGTCGCTGGAA
CTGGCTGCTTGACCTTGTGTGTCGTCACGTAGTACGAAGATACCTTTCCTTCGACATAG
30 GGGACCGTTTCGTAACGCGGTGGAAAGTTAAAAGACCGTGTTTCGTTCTACCTAGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 865>:

GNMPI48TR gnm_865

CTGGCATTCTGCTGCGGTCCCCGTGGGCCCCACTGGCAACGCCCTAGATGGTTCGCTTA
35 GACACCTTGCTAAAAATTGTGTTACCTGTTGCTCGAAAATGTTATACTGCCTAGTTGTC
GTAATCGTGTGTGATAGGCCCTTAGTAGTTTCGTCCCGGTGCGCTAAACTTCCGTGGCACC
TGCAATTTTCGACCTCGTAACTGGTGACCAATCTTGTCCTTAATTGGCCCCCTTGACCGGC
AGTCGTTTGATCGCCTGACCCCCCTACACCGGCTGAGTATGACGAAACCTGGTGCCCTAG
TGACGGGCCCCGGCCCTGAGGCCTACGGTCCACTCTCCCGCCTACTACTCCGAAAAAACC
40 ACAGCCACTTAGTAAGCGCCGTAAAAGTAACCCGATAGCCCTCCGCTCCGCGGCGCCGG
TCTGGTAAACGTTCTACCAGACAACGCAGAACGATCCGCAAAGCCAACAACATGCCGAAA
ACAGCCCTGCTCGTCGCTCCTGGGTAAAACACTAGATTCCCGTCCACAGTTCAAAAAACC
AGTCGCCCCCTCATATAGGCCCTCTAGTAATACAAAACGAAATTGCCTCATTTCGTCGACC
TCTGACAGTCCCCCTAACAACTCTCCCCAAGCGAAGCGACACGAAAAATCCCCACCGGA
45 ACTATTCGCCCCCTAAGAACTAA

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 866>:

GNMPI49TR gnm_866

5 GGGTCCCCGCCTCCCACGATAATCGTTACTCGCTGGGTCTTGAGCTGCTTCCGATGCTTG
AAGAGCCGTACCATGGCGCCGCTAGAACCCCGAATGGGAGATTCCAGCTTCGTGCAA
CTCGGGGTACATCCTAGACAAGTAAGGGAAAATTCATAGTAGTCTGCTAGACATCTGCAG
AATCCTAAGTACCTGCGTCCGATCCGTCAATATCTTCTTCGCGTTCCCTACTACTGGCTG
CTGCGTGGGCAGCTTGCTTCTCTCTGGCACTTACTGGGTAAAACCGTCTTCTAGATCTG
CATAATCCGTACTATTAAATTCAGGAATATCCGAGTCAATTACTTGGCAGTCAAGCTTAC
10 TTAATTCCTATGGTCGATCCTCCGTAGCGATATGCTTATCTAAATTCTTCTCGTCAGGCT
ATTGGTTTACTGGGGCTTCCCCTGCAGGCTTCTCTCAGGGGCGGGGCTTCAATCTTGG
CTTCTGCAAAGATCTCTAAAGAGTCTAATTTATATTAAATTTAGTATCCTCACTACTCC
TACCCTAGTAGTCCCAGCTCCCTCTAACCAGATCACTCTCAATTAAATCTAGCATTAC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 867>:

GNMPI50TR gnm_867

TCCTTAATGCGTTCTTCGAGTTACTAGAAGTGCCCAAATTCCTAAGAATCCTAAACCGA
CTCGAGTTGCAGGCAAATTTCTTTATATGGGCTTCTACTTCACAGATAGGCTTCTTCAGC
TTCTTAAGATCCCTCTCTTCTGTAGTTTGCTTCAGTTCTTCATGATCCTCACTCGCTTCA
20 AACGTTTGGGCGCTCAAGTGGTTCTATCCCTGGGCAAAATAGCCCCAAAATCTAAGCTTC
GTGCAACTAGTGCCTCCTCCTGTGTCTTGCAACAGCAAAAATCCCAAATAGGCTTTTGT
TAAGTCCGAAAAGAACCTGTCAAATAAATTCAGGTGATTCTTCAAATTCAGGAGCAA
AAATAAAATTAAACGTGCCATTGTTTTATTTCTTGGGGTTATGCCTGCTGGCTTCTCGA
TTGCTTTGGGAGCGCGGAGACTCTCAAACCTCCTCCTCAGAGCTGCTAAGCCTATATCTC
25 TCGTCCCTCGGGTCGTTGGGGTTGCTGTGCGAGGGTCTTGTGCTGCCCTAGGGCCCCCTAC
TCAGATTCTTCGGGGGGCTTCGGGTCGTTAACCTGCCCTACCTAGATCT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 868>:

GNMPI51TR gnm_868

30 TCGGCTTAAATATCTTCTTGGTCGCGGTCTCCTCGGTTTAGGGGTGATATTTTGGCCCT
CCATGGTTTCTGGCATCCTAATTCTAAACTCCTTGCTGGCGGTTTGTATGCGTTCTTCC
GGTCCATCCTCGGGTTTGGGTTTCGGTTTGAGGAGGGTAATTGGCTTTTTAAGTGTGAGCT
TATCGGTCTCTTTACTCGCAGTCTCAATCTCCTCTCCGTGGGCATCCCTACCGATCTGA
TTGCTCCTTCCAGGAGCTTCCTTACGTTTATTGATTGCTTCTATCATAACAAAAC
35 TCCTACCAAGAATTCTGAGTACCTCAAAGCCTACTAGTCTATCATAGGGTTCATATCTG
GTACCTCCCGCGTCAGGGTAATTAACGTGTTCATACTCCTGATGATTCTCATGGGGATCC
TAATAAACAAAGTCTTCTAATCGTAATTGTAATCTTCGCGAGCCTGCCAGGAGCCTCC
TACCTCCTCCCTCCTACTTGCAAGCTTCTTGGGTCCGGTGCAAAGATTACATCTGCCCT
AAATTAACTCCTGATAAACATAAATTCGAGCTTGTAGCTTCTTGGGTCCGTACACGC
40 CTCGAAAATATTCTACCTCTAAAGTCTCGCGTTCTATAAGGGATTTCAGGTACTTA
TCATAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 869>:

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GNMPI52TR gnm_869

TGGAACTCGTCCATAGGGTTCTCCTCCTGCGCTTCGTGCAAATCTTCTCCCCAGCT
 CCTGCTCGGGGTTAGTCAGAACTAGAGGGTTCCATCTCGGTCCCCCTCCCGGGGTTTCCC
 TCCTTCTTCAGGGCGGGCTCTGGAGAGACGCCAGGAATAAAAAGTACCATAACCTCATCA
 5 ACTTCTACATACGATAAAGACGATCCAATTCAGGTATGGCCGCTGGTACTATTGGACACA
 AGTCGGTGTGGGCACTGAACCTCACCTAATCTTCGATGCCGGGGGCGGAAGTTATGAGAA
 AAAATATGCTACTAAAGTCGGGAAAAATAACTCGTTGGGGGTCCGTCCCTCCAAGATCCT
 ACCCGTCCGGGTTACTACCTTGGGGGCTTGGCTTCGGGTGAGGGCTCTTAGCAGGGCCCT
 10 ATGTCGATCTTTCGCTCTGTTGCTAATAGTCTCCTCCCGATCTTCGTCCGTACCTCTAC
 CCTCGGTAGTAGCAAGGTCAATCCTAAAGTGGTCTACTCATCCGGGGCTCGGTATCCT
 GGTATGTCCGGCTGGGCTAGGAACCTCACCGACGTGCGCCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 870>:

GNMPI53TR gnm_870

GCCCTCAAACCTATCCGAAAACAAGTCTTGAGGGCCCTACTGGTCTTAGGGATTAGAGTA
 ACTGTCTTAATCCCTCTCGTCGTAAACTTAACGTTTTCTTTGGATSCCGAGCGCTCTA
 ATAGGATATTCTTCATGGCCCATCAAATTCGTGAGAGTACTGCCTTCCAAAATTAATTCA
 TGTTCCGGCGGTTCCGGCAGGGAACCCCAAGCTAAGCAATTGGAAGAAATGCAAAAATAAAT
 GCGGTTCTTCGATCCCTACTCGCTCCGCAGGCTTCGATTGAGAGGGCCCTGGGGCCGCT
 20 GCTGGTGCAGGTTCCGTCTTAGTCGCTGCAAAAGTACTGGGCTTCAATAACAAAGTCTTA
 GTTCTTCGGGATGTTGGGAATCATCAGTCAGCACCGGGCCCGTCGTGCAAGAGGCTGC
 GTACTGATTAAGGAGCTACATAGTGGTTAAAAGGGGGCCACGATCTGTAAGCTCGGTC
 CTCATCCGAAAATACTAAGAGTGAGTCAGCATGGAGGCCGTGGTAAGGAACATGCTCT
 GCATGATCATCCGAAGGGCGTGCTGCCGTCCGGAGTTCATTC

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 871>:

GNMPI54TR gnm_871

TAAACTTGCGAAATACTTCTCTCTTTCAGCCGGCTTAGTCGGCTTCTACTAAACGCGT
 TATTAAGTCATTAGTTGTCAAGTCTGCCTCCATAAACGTCATTAAATGAGTCGTCTCC
 30 TCCGAGTCTAAATATTGGTTGCGGCCCTCAACCTAACTTAGTCCTAAAGTGGGCCTCCA
 ATATCAGGGCCGCCAACAAAGTTAAAAAGGAGCCTCAAAAGCCTCCTAAAACCGTGGCT
 TCTGCTTCATTTCAGCGTCGTGGCTTAAACTTGGGCTTCTTCAGCTCCAACCTGCGCCGCA
 AACATAGGCTTCTTCAGCTCCAACCTGCGCCGCAACATAGGCTTCATCGGCTTCAACATC
 ACAGCAGGGGCCATAGTCCGTTCAAAGTTCTGCTTCTCTGGCTTCAGGGCTGGAACTTC
 35 TTCCGATCCGTCCGGCCAATCCCTTCCGTCTCGCGTCACGGGCATTAAGGTCTACCTC
 CGATCAAACCTTGGCTTCAACTTAGGCTTTAAACTAACTCGGTGTGAGGCTCCCTCCTC
 CTCATATCTGCCTCCTCAGGCTTAAAGGTCCTCGGATTCAATAAAGTCCTGATAGTGGTA
 TTCCTCCTCTCTCGGTTGGCACGGTGG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 872>:

GNMPI56TR gnm_872

TCCGGTCTGTATAAAGAAAACCTCCGGGTAGCCTCACGATCTCCCTCAGGGTCATCTCTTC
 TTCCGGTCTTCTTCCATACTCATCTCTCCCTGCTCCTCGAACGCGTTCAGAGGCACCGT
 CCTCACTACGGGGTTCAGGGTTTGGCTCAGGGCAGGGGAGTGGGCCGGTGCAGGGTTAA
 45 CAGCCTCTCCAGCGGGGCGGTATCCGTAGGGGCTCCAAGAGTCACCTGGTTGCTCCTAC

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CGACTTCATATTCACCTCCCTCTCGGTCGCGAGCCCTACCGCCTCTAAGGTGGCGTTCGT
 GACCCGGATCTGCTTGCTCGTCCTCCTCAGCACGTTCTAAGTAGCGACAACCTGCCGCCG
 GGGATTTCTATTTCGGCCCTTCTACTACGTTCTCAGCATGGTCTTCTGGGTCAGGGTCACCCA
 CAACTGGGGAATCATGGCCTCGGGGGGCAAATGGGGGGCTACCGGGGCAATAATAACCTC
 5 CTGCATCGGGCTATGTAGAAAGAGTGTGGTAAGAGTGGTCCGTCCTAGAGCTTCGTTCAA
 TTCCCGGGAGAGGGTACATCCTAGGGGCCAGGAGGTCCAGGGGGCTCGATGTCAACCTG
 CCAGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 873>:

10 **GNMPI58TR gnm_873**

AGGCCTCTCnAAAnAAAnAAAGTTGTCTGGGTCCTTCTACTAGTAATTACTTGCTTTTCTGT
 CATAGTTCTCGTAATATGGGCAAACCTAAATCTCAGAAACGCTGCTTCTGCGGCTAACTT
 CAAACGCTTCAGCTACACCTAATCTTGGAGGTCTTGGCCCTAGTTCTTGCAAAAATAAA
 AGTCTCTGGAATAAAATATCAATGCGGGGACATCCTATATGCCAACGTTAACATCAACCT
 15 ACTTACTGCTGGCTTGGAGGCCGCCCTCTAAAATCACCTCAAAGTAGGCGTCAGGGTGCG
 CTTCCGCTTCTCCGAAAATTGGCCTGCGTCCGCTCTAAAGCCTCAATAAACCTACAAGT
 GATCTTGGTCAGAGTCTTCAAAAATCTTGGCTTAATTGTAAATTCTCGAGCATTTCTCTT
 CCATGCATTAAAGAGTTATTTTCAATCTAGTCCTACTCAATATCAGCTTTCGAGTCTTTCA
 TGCCTACCTAACTTCATTGCGCGGCCGCCATCTCTTTGCTGTTCCGGGCCCTATGGGA
 20 TCTTCTAAGTTTCATTGTAAAGATTCTTAAGTTCnTCAAATTCGTCTTAATTGGGGCCAA
 TACTAATATACTAGTTGTCAGCTTC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 874>:

GNMPI59TR gnm_874

ATTATTCTCCTTCGATGCTTGAGTTTTGCTGCGTTAGCGGTAAACTTCGTTGCTGTCCAT
 AAGCCTATACTTGTTGTTCACTTTCAATGTCAATATACTTGTAGGATTTCTAGTCAGGGTA
 ATTGCGGGGCTTCGGGGCATCAATGCACTAGTTTTTCAGGATACTATTGGAGCTTCTGATT
 CTAATTCCTGCCTCTAACATAAGATTTCGCTGCAATGCGGCCAATGCAGGAATTCTTAAT
 GCATTCAAAAACCGGGAAAAAGACACAACTAGGTCTGCTTCGTCGGCATCTTATTAGGA
 30 GGTACATTTCGCTCTACTAAATACTCGTACCTTAGACAACGGCATCAACAACCATAAAGTA
 CTCCGTAAATTATATTCACGAACCATACTCAGCTTTCGGCCAGAAACAAAAATCCnTGTG
 ATAAATGTCCGGATAAATAATAGATTCGATTTCAGCTACAACTGAGAGTCACAAATGCT
 ATAGGATTTTTTC

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 875>:

GNMPI60TR gnm_875

CTCCTCCTAACTTCTAAAAGTTTTCATACTTCTTGTAACCTTCCTCATTGTCGAGGTGGT
 AATATTCTCCTCTATATTCTGATGTATATCGTCCATGTGATAGTCCTAATCCTCAAGGT
 AGTTAGCTTTTTACTACTCTAAATTAGTAAATTCAAAAATGTGTTATATTCGGGGAT
 40 CTTAAAAATGATTGTCTCTATAGATGGGGGGGATACAAGCACTTCTTTCTCTCTTCTC
 TTCCAAGTCTCCTAAAAGCTTCTTGGAGGTCTGCGGGTCCGTACTCAGCACAAATATCGT
 CAAAGAACGTCCCAACCGGGGCGCCGCTAGGGTCCAGTCGGCAGCATCATCCCGATCTT
 TAATACTCAAATTACTCACAAATATAGTCTTAGCTCCGCCGTCGTCGATCGCGTCAGCAT
 CCTCGTCCCGGTACTCGGGTCCCTCCCGCAGCGCAAGGCTGGTCCGTGGTGGTCATCAT
 45 GGGGCTTTTTCAGGGGCTCTAATGTGCGGCTTAGGGTCTCAGCTCCGTCCGGGTGGGCAT
 CTCTTATCAATTTCAGCGGCTCTACTCGCTTACGGGCTTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 876>:

GNMPI61TR gnm_876

5 AAATTCTGTTCTTCGTAGGTTTCTCTACCTCCCAAGTGACATAGGTAAGCTGAACCTAAG
GGAGTCCCAAGCATGCAAATGTAAAAATGACAGGTTTATGGGTCGCCCAAGCATCCAAG
CGACCGGTCGCCCAAGCATCCAGCTACCGGGTTCGAGCCAGCCAGGTCGTAGGTTTCAC
TACATCCCAAGTGACATAGGTAAGCTGAACCTAAGGGAGTCCCAAGCATGCAAATGTAAAA
AATGACAGGTTTATGGGTCGCCCAAGCATCCAGAGACCGGGTTAGCTCCATCTCGGTCC
10 AGGTATCATGCTCTCCAAAGCATCCAGGGGCCGCGAGGTTTGAAAAAAGAAAAAATA
GGGCTAATGGGCGGAAAAAGAAACCTGCGCGGGGAATCAGCGCGGCAGAGGGAAGGTGAC
AAACCGACTGAGGGAAGACGGATTGGGGTGGAGGGAAAAAGACTGGGTGTAAAGGTTAGC
AATCTTGTAAGATCAGAGCTACAGCTGTGAGTCAAAGGAACGGGTAATAGGGCGGGAGG
AAATAGGGGAGGGGACTTAGGGGTAAGAGATTTTAAAGAG

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 877>:

GNMPI63TR gnm_877

GCCTAAAAACCAGCTCGGGCTACAGTTGGGCGTCCCGTCCCAACCCGCGGGGCTACTCCA
GGGGCTTGAGAAGCACACCCAATCTAAATTTGAGTCCCTCCAGCTTCTTCAGATCCCGGG
20 GATAGGAGTCAGCTTCGTGCAAACCCCGGGGAGTTCGGTACCTAGATCCCTCTCAACTCC
ACCAGCCGCTCTCTACCATCAGCACGGGCTTCGCAACAAAGCTCGCCAATTCCTCAGC
CGAAGCATCCCTAAAGTGGCTCCGGTCTTTAGGGTACGCTGGGTTTCAGGGTCATCATG
GTCGTGGTTCTCTTCGCGAGTAGTACTCGGGCCTAATCGGCCAATCCTCCATCCGGTT
CCATCCGTCCGAGACGCCTACATGCTTCTCTTCAGCACTACTAAGAAAGTCCCGCGCTCT
CTGGCGCTCCTAAAGCGCCTCATAGAATTCTTCAACCACAACTTCCAGAACCTAAAGGTC
25 CCCCTGGTCCCCGCGGCCCTCTCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 878>:

GNMPI65TR gnm_878

CTTGGGGTTCATAGCTTGGTTCTTATAACTCTCGGCGACTTCTTGGTCATACAACTTCGT
30 TAATTGGGCCGGGGCGACTCGGTTCTATCCGGGGTAGTAGGCAGCTCCGCGGGCAAATCG
GCCGAGGCTAATTACTTCGTGTAAAGATCTATTTGGGCGGGAGTCTCTAATGCAGCTTA
TCTACTAGAAATATTTTCTTAGAATTAGATAAAGTATGCTTGCTTCTATTCTTGGGCTT
CGGCATGCAGCTCGCTGCCTTCCTTGCTTCTTTAGTATCTTCAGGCTTACGTCCTGCTT
GGTAGGGGCTTCGATAAATATTGTCTTCTTCAGGGCTATCTTGGGCTCTTATTTGATCT
35 ACTTCTCTCTTTTCGAGAGGGGCGAGCTCATTCCTTCTTCAGCAACTCTACTTATAAGGG
GGCATCCCATCCAGTCCTCCTAGATATCGTCGCTTTTGCGTCCTCCTATCTACTTTAAA
TAAACGAGGGCTTCTAGAACTTGGGCCCTAGAGAAAATTCTGGTCTTGTCCCCAGACT
TAAATCTGCTATCTTTAACTAAAGTTCTTGGTCTAGGCTGGCACTAAGAAGGTCGATAC
GTTTGCTTCCGAAGGGGCGGGAATCTAAATCAATTCCAAGTTCTCGGGGGCTTCTAAG
40 TACGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 879>:

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GNMPI66TR gnm_879

ATATACGAGCATATAGAACTC3TAAGTCGCGCGGCTTTGCGGGGCCAACCAGGCAATT
GGTTAAAGAACGGGGCAGGTGATTCTTTTACCCATACAGCGTTAACGCCTCCCCGGTA
ATTCAGAACCAAGGGGAAGTAAAGACAAGTAACTTGCGGGAAAGGGGCGAAAGCTCCTA
5 GGGTACATCCTAGGGGAGCTTGGCTTTGTTAGCTTCGCAGCGGTGAGCCTAAAATTCTGG
TCCTCCGACCTCCGAACTCGGTCTCTCTCGTCTCACTGTGGTTAACTGCGGCTTCATC
AGGGTTAAAATCTCTCTCCCTAACATTCCACTCCGCGGTTAAAAATTCTCCATACCGGT
AAAATCCGTAGCTTGGTCCCAAGGTCCCCTACAGGCTTCTTCTACCTAACTACCATCCAG
10 CCGGTACATCCTAGCCTGGTGGTTGCGGTTTAAAGGTCGCTCCAAGCAAATGTGTCCTT
GTCGAGGCTTAACTAGGGCGTTAAGGTTGCAACTGCTTTCAATCAAGTCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 880>:

GNMPI67TR gnm_880

GGGGCTGCTTTnTCGGGGTAGGGCCGGAAGTCAATTAGTTAGAGGGACAATAAATGGAAA
15 CGGTTTAGGGGGAGTAAAAATTGTGAAAGCAGGGGGAGCGGCCTTAGTGAAAGAAAATTG
AGTATTCGGGGGAAGAATTGGCCGGGTGGGGGATTAACAACATACATGCTTTGGCTGC
TCGTCCAACCTCGGCGTGGGGTGCAAGGGCACTTACTGCGGGGTAAAACCAGGAGGGGG
TAGCGAGCGATGTAGAGGTCCGATACTATTGGGAGGACCCAGAGAACCATCAGGGGGGGT
GAAAATGGTTGGCATTGGGGCGCTTCTGGTTTGGGAGGACTCTCAGGTACTGTGCGGTT
20 CATCATAAGAGTAAGAATCCTGGGCCCTAGTCGGTTAAGTTAAGCGGGTCGTCAAGAACCG
CCGTACCGGGCTCCTGAAAGGAGAATTGGTCGTGGGTAAATCGTGCGGGGAAAGTGTGAAT
CGGCAGGGGGTTTCGGGGGAAGTTGGGGTGCTGATTGGAGAAAATTATGGGGCTACTACG
GATAATACTGGGAATTCTAGGAGGGGTGATTCTCGGGGCGCTCCGGGCGCTACTACGAGG
CATAGTGTGTTTCGGATCTTGCTAATGCGATTGCTTCTAACGGGCCTAGACCTCCGAAG
25 G

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 881>:

GNMPI68TR gnm_881

CGATCTATCCTCCGAATCAAGTTCCTCACCTCTATCTGCGTGGCTCCTGGTACATCCGTG
30 AAGGGCCGTCGCTCAGGGCCTCCATGGTGGCCCTAGATCCCTTCAATCCCGCCTTCCAT
ACCGAAAACCTTCAGCATCCGGGGGGTGGTCTCAGGGGGTTCAGGTCTGTTATAGTCCT
CTCGTCAGCACTTCTATTCCGGTCAGCCTCGTGGTTAGTAGCGTCAAACCTTCTTTGCA
GGCCTCGGCCTCCTGGGGGCCGTCCTCGGCGTTAGACTCACCGTCAGCGGTCTTAACACT
AGCCTCTCCGGCCCGGTGAGCTGCGTCAATCTCTTCTCTCGAGTACCCTTGTACCCGC
35 TCCTCCGGTAGCGCGTGGGCTTCATCTCTGTCTACAACGTTAATACATTCCGAAATGGC
TTCTTCTGGGCTTCTCTCTCCGACGAGGTATCCTCTCTGGTCTTTCGCTTGGGAAGT
CTCTTCACTCTCGACTCCAGGGGTAGCGTTCCAGATCCTCGCAACTCCGACGTCCAGGTC
GGCAGCGTCCCTCCTACCAATGTAAGCTTCGGCCTCTCTACGTGCGCGACAAAGCTGGC
ACTGCCGTCCGCGCGTTAAGGTCC

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 882>:

GNMPI69TR gnm_882

AATACTCTCCTCTGGCTAAAAGAGCCCCAACACTGGCAGCTTCGGCCGCAATAGAGTAGG
AAACTTCTGTACCTACATCTGGGCGTCTCTAAGATCTTACTCCGGCTCCAGAAGCCTGGG
45 AAAATCCGTACAACTGCCGTGCGGGTCGCGGGGCTTCTGCGAAAATCTTATCTGGGT

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5 CCTCGCCGTCTCTATCTCCAGCACCCAAGAATCCGACGTCTTCGGCACGGGGGTCTGGGGT
AGAAGGCGAATCAAGTAAACCCGGCTTGAGTTATAGCCTCAGAAACCGTCTTAAAAGTAT
AAAGAGAGACATAAATTAATCAGCTTCGCTCAAGCGTCAACTTCAATATCCGTACCAG
CTTACTTAACCTTTTCTAAAATAATCCTAAAGGTTACACAACGAATCATTCAAGGCATTAG
10 CTTCTCTATAAAGGTCAGCCGTCAACTCAGAAAGGTTGCTCTCGTTGCGGCCAGATCTGC
CGTCAGCGGCGTTCCTCTCGCCTCCTCTAGGGCTACCTCCGACGACGGGGCGTCCTAAC
TTACTCGCTGCGTACTATGGTCGGCACTTCTGTTTATTAGGGAAGTCTTAACCTGGCAGT
CAACAACGTCGGCATCATCGGCGGAAATCTTTCGAGTACTATTATCTTCTCGGTAGGCT
ACTAAATAGGTAAAA

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 883>:

GNMPI70TR gnm_883

15 CGCCTGGGATGGATTGGGTGACGTAGCAGGGAGTGTGGCCGGGGGGTCTTTAAAAGGA
CTATAACGTTTGGTGGCGGCACAAATGGGCCTAAAAGAGACTACAGCCGGGCGGCTGC
GGCGGGAGGGACCGAGGCCCCAGAGAGAGTTGCCGGCAAAATAATACGGGGCAGAGCTGAG
CCATGCGCGGCCCTGACCAAAAAAGGGAGCAAAACAACGAGTGCTAACATGCTTAGCG
CTACGTGGGGGGCGGCTTCCGTGGGGCGCGTGACGTTTCGTGCAACTACGTGTGCTATC
ATTGGGCGCTCAAGAGGGCTGATATGGCCTAAGTTCGTTAGGGGGGTGTATCTGGAGCTG
20 CATTGAGATTTTCTTTCAGCTTTTATTGTTTCTTAAATTTATCAAACTTCGCCTGCTG
CTGCGGCAGCCTCGGGCTTGCCGGCGCCTTTCCTCGCGGGGTTTATCAGGGCGCCAAGTT
GCATCAATTGCTTCGTG

20

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 884>:

GNMPI71TR gnm_884

25 GGGGAAATAGAGGGAGGGGTCGGGAATACAAGAGAGTCAGGAGAGTACATCACTGGGCA
GGCTTCCCGGGGCTGAGGGGGGCGGCGAAGAAGTAAAGGCTATCGGCATGAGCGTGGGTG
TCCGAAAAAGAGAAATCCACTAGCGGGGAACTTGGGTAGAATCGGTAGGAAGGTTGATCT
GAGTACCGACTTAACCCCACTGGGAAGGGTAAAACGGGTTAAGGGCCAATTAGGAACA
AAGTAAGAAGCCGATTACAGTTAAGCATAATAGAGTGGCCGAGCGTTAGTCCAGAACCAG
30 AGGGGGGGTGAATTGTGTCAGGAAAGTAGGTGTTAATGGTTAAGAGGTGGTAGTATTATA
TTTTCGTAGTAGATTAGGGCTTAAGAAAGCAAGGGTCGTAGATTTTGTAAATAACGAA
GAGGGTGGTGCAACGGGGGGAATGTATATAGAAGATATAGAAGAAGGAAGTGTAAAGATC
AGGGACCGGGGAGTAAAGCGATTTCGGGTGGCGGGTGGGTGCGAAGCGGAGGTAGTCGA
CGAACCGGTGCGGCAAGAAGGCGTGGGCTTTTTCCTAAGCAGACGAATAAGGGGTTTGGG
35 GCTGGTTTAACTGGCGATGTTGAGGGTAGTAAATGTAGACATAGAGCGTCCAGAAC

35

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 885>:

GNMPI72TR gnm_885

40 CGTGCCAGGTTTCTTGCTCTCCCAAGCATCCCGGGTAACAGGCTACGCGGCGTCCCAAGC
ATCCCGGGTAACAGGCTCCGCGGCGTCCCAAGCATCAAGTTAGTTAGATCCAAATTGCTA
TTATCGTAGGTTTATCCAACGCCCAAGTGACAAGTTTCCCGGGTACGTAGGGTTCAGAC
AGGTTTCTTCTCGTCCCCCGTGACAGGTTTCTTGCTCTCCCAAGCATCCCGGGTCACAGG
CTCCGCGGCGTCCAATCTAATGCAATTTCGTAGGTTTATCATACGCCCAAGTGACAAGTGT
CCCCCGGTACGTAGGGTTCAGACAGGTTTCTTCTCGTACCCCCGTGACAGGTTTCTTGCT
45 CTCCCAAGCAGCCCGGTAACAGGCTCCGAGGCGTCCCAAGCATCAAGTTAGTTAGATCC
AAATTGCTATTATCGTAGGTTTATCCAACGCCCAAGTGACAAGTTTCCCGGGTACGTAG

45

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GGTTCAGACAGGTTTCTTCTCGTACCCACGTGCCAGGTTTCTTGCTCTCCCAAGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 886>:**GNMPI73TR gnm_886**

5 GCTTAATATTCTTCCAAGTCTTATCAATAAATTTCTTCTTCGTCTTATTACGCTTGTCTT
AAGTCCCTTCCTAATTCTTCTAAGATGTAGTGCTTTCTGGGCTTTCAGAGGCAGTACCCT
CGCCGAAAGTTTTAAATTCGCTTCAATACTTTCAGAAATCCTCTCCGTCTCTTCAGCCA
CCTAACTCTCCGTAGTTTCGAAGTAAATTCCTCTAGAAGTGCTCTTAGATGCAGCTCCAG
10 GGCAAGCATTAAGATGTTCGTAATCCTAAACTTGCTCTTACGGTCCATCTGGTCGGGTC
CTCCGACGGCTCCGAACATGCTAAGCTTGTGGCTCTTACGGGCCATAAACCTCTAGTCAT
CCTCTCTATGGGGGTCATTCTCGTCCGTACTCATAACGAGTCTCTAGAGCTTCGGGCAT
CCTCCTAGGTTTGGGCTCTCTTTCAGATACTGGCAGCTACTCTAACATAATTAAATATTA
TCGGATCAGATGTAGTAATACTAGTAATATAAATATATTAAGTACCATCCAGTCTTCA
15 GGTAAATATGAAGGTAAAGGTAGAAGCAGGTTAATATGCAAAAAATTAAGTAAATAGTT
AACTGCTTCTAAATTCTGCTCCTAATTCTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 887>:**GNMPI74TR gnm_887**

GAGGGCATGGTCATTCTTAGTGTTAGCGGGGTAGGTGGCCACTGGTTGCGGTGGGGACC
20 TCCATAACAAGGAGCAATTTAAATTTTGGTTCGGGTTCTTGCAGGATTTGGCATCAACGA
ACGAGCTTAAGTCCTAATCCGTACAGGCGACCTGGGCACTCCGGGGCCGGGCATAATCCG
GGGCTCCATCCGGGCCCGGTGCTTCTGGGTCCAGAATACTTGCTGGTTTCTGGGTAAAGT
GGTTCGGGAAGTTAGGGCTTCGTTCAAGAAAATCCAGCCAGCTCCGGCCAAAGTACCAG
25 GGCTGCGGCTTCAGCTTCGTGCAAACTCCAGAGTCTGGTACATCCTAGGGGCAGGCTT
CCCCGGGCTGAGGGGGCGGCGAAGAAGTAAAGTCTATCGGCATGAGCGTGGGTGTCCGA
AAAAGAGAATCCACTAGTCGGCGCAAGTGGGTAGAATCCGTAGCAAGGTTTATATGAGTA
CCTAATTAACCCCAACTGGGAAGGGTAAAAACGGGTTAAGGGCCAATTAGGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 888>:**GNMPI76TR gnm_888**

GGCTACCCTCCTCGGCACCTTCATCCTCATCCGGGGCTTCGGCGTGGGCTCCTCTACCCG
TACGCGCTTCGGCAGGGTCTTGATATTAAACAGAACACCGCCTCCTCCCTAAACTCGTT
TGCTAGGTTTCAGCTTCTTAACTTCCGGGTCCCCCTGCTCTTCCGCACCACGGCCATCAT
CCATCTCCGGATCTTCATTGCTTGGTCGTCTCTCTCTTTGCTAGAAACCTGGTCAGCTT
35 CTTCTCGGTCCCTACTGTGGTCTTCGAAACGCTGGGTACATTGGGCAGAATTAGTACCGA
TCTCTTTCTCATCCGTCCCTACCAAGCGTTCTATACCTCTATCCTAGTCCTCGACTCCGA
ACGCACCAGCTTCGGGGTCCCTTCTCTTACCAAGGTCTTAAGCTCGTGGCCATCCGAAG
CCGTCCCCTGGCCGGCAACAAGCAGCCAAAGCGGTGGCGCGTAGAGCCGGGCGTTGGGT
CCCCCTCCTCCTTCGGTACATCCTAGTTCGTAGGGGGCGCGGGGAAAATCACAGACACCA
40 AAATCACGTTCTTCTAAAGGTGATGATGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 889>:

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GNMPI77TR gnm_889

ATAAAAATAGCTACAGGGGCTAAACGCCTTCGAGGCAGCCCTCCGGGGGTACTCAATCA
CAAAGTGTCTGCCATACTCCTATTCTTAGGGGCAAGCTGGGAAAACTAAACCTAGACAT
CTAGATCTTGGTCAGTTGAAACAAATTTTAGGCGTGCAAGGCAACCTATAACCGGGGTAC
5 ATCTAGGTAATAGTTGGTATCCGATGGATCCTCAACATCCCCTCCGGTACCCGCTAGGC
CAATGCGGCCCTAGGTTTGAGATTCTACTCCGCGTCTTCTAGTTCTTAGTCCTAGCCAT
AAAGATTCTGCTAAATGCAGGGCTACCTAGGCCAGGCTTTCGGTTTCACGGTCTTCGT
TGCTATCATCATATGCAGGGTCAGCTTCGTCAACAAAAAGCCCTTGCTTCAGCGGGCGCA
AATTCCTCCTTCAACCTACTACTCGACCTCGCCGAAAACGTAAACCAAAACCTTCGTGCA
10 AAACCTCGGGATCAACAAGGCAAATATTGGTACCCTCAAAGTAGGCTTCAATCGGGGAGTC
CTCCTCCTCAAGAGGTGCTTTTCGTGCAATCCTAAACCCTGCTTTCCTAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 890>:

GNMPI78TR gnm_890

GTCTTCTAATGGTCCGAGCTTTTCGTTGCAACCTGATTCTAAACTTTGCTCTTGCA
ACGATCCTACAAAAAGGTCTGGCTTCGAAGCATTGGGAGTCAGATCTTCCCTCTCGAG
TTTCTAGTCTCTCCAACAATCTCCCTACGTCCAACCTAGTCTAAAAATTGCGATCAA
TGCATCTCTTGCTCTCGGTTGCGGGGCGCGATTTCGTAGTCTCAACCTCCGGTAACTCCG
CTCGGCCTCCGTCTTTGACCTCAGGATCGTAAGAGCTGCTAAGATGTCAATTGAGGTGCGG
20 AGTGTTTTTCAACCTGCTCTCGTGAGGGGCGCCAAAATTCTTCAAAACCTCCTCCAGCTC
CTGTAACCTGGGCCCCTAGGATGCTGCATTCTTGCTAAACTGCCATGGCCGTCAGATTCTG
AGTAAACAATTAGGCCCTCCTCTCTAGTCCCAGGGTCCCTAAATTAGCAAAAATCGAAAA
CTTCGGGGCCAAAAATAATGCTATCAACTCTAAACTAGTTTCTGGCTTCAGGGCTGGGGC
TCTTCGGGGCATTTCTAGGAGCCTGGATCCTAAAAGGGTCCAATAAGAA

25

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 891>:

GNMPI80TR gnm_891

AGCGAAACCGATGGACCAAAGCAGAAAATAAAAGACGGGGCGGTTTCGAGTTGCAACTAAG
CTGGTTGAAACAGGGAAAGAGTTCTAAACGGAGGAAAAGGACTGTAAGTTATGTAGCT
30 TAGGAATGATCAGCAATAAGAGGTGGGGTTGGCCGCCGGGCAAAAGCTACAACTAAGAG
AGTACAACGAAGGCATAGGGAGGGGCAAGAATGCCTAGGTTAAATTGAGGATTGGGGCT
GACAAATTAACACGCCCTGCTTGCGGGGCGAGGGTACAGCAAGTACCGAAGTTGAAAAG
GAGACGACGGAAGGGACAGAAGATAGAAGAGGATCACATGGGGCAAAAGGGGCGAGATGGC
CTGAAAACAACCTGCAAAAGCAGCCGGCCGACTAATTCGACCGTCCAGGTGTCAAGTTCAT
35 AGGGGGTAATACTCCTAGGGTCCAAATCAGACATCTCGTAAAGAGGGGGCGTCCAGATAA
AGAGTTTATTGATAGTGTGCTCTACTAAATGGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 892>:

GNMPI82TR gnm_892

CGGCGGGGTAGGAGGGGGTTGGAGTGCATCCCAGGTCCCGGGCGGGCCACCCTCTCCTG
GTTCTGGTCCCTCCTCTCTCCAGCGCTTGAGAGCGCTCCGGTCCCTCGGTCCCTCCAGA
GCAACTATCTTTGACCAGGGCGTAGGAAGGGGGCTTGGCCGTCTCCTGGTGGTTAAGTAT
CAAACCTATTTTAACTAAATATGCGCTTCTTCTAACCACCTCCTCCGGCTCCCCGA
CTTCTGTTAGATCACCAACATCTAAAAACTACGAGTACCAGCCTCTGCAGCAACTTCGA
45 TACGGCTTTCTCTTGCGGCAACCGGGCCGTGGCTTCGAGCCGGGTCGCTTCCATCCTGGC

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GGTGGGGGTTCTTAGGCTTAGAAGCTCCGTGCTTTTCGGCTGCAAAA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 893>:**GNMPI83TR gnm_893**

5 AACTGATGCCGGAGAGACAGACAGTTACGATGCAGGAGAGGCGTGTAACAAATGGAAAAG
GTACATAGGGAGAGGAAGGAACACCGGGGACTAACACGCTTCGTAAAAGAGACCCTCTAG
TAGTCAAGGTCTCAACATAAATCTGATCAGCAATCGGGTAACCAGGGCAAAAAACAAGT
TAGACCTGAGTGCAATTCTAGTTTCCGGGCCGCGTTCATGATTGCAACCTCCTAAGTAA
10 CTGCGTCCGGTACAAAAATTAATAGTACTATCTTGAAAATTCGAGGTATAATTGCTGTTG
GGGTAAAATAGGGCTAGGGAAAACCTTCGGAGAAGCTTCGTGCAATAGTGCTTTTATTATA
GGAGATCGCAAGCGTCTACAGGCGGGTGGGGCGAAATGGAGAGGAAAAGTTATGGATT
CAGGTATCTTAGCTTCnTTAGTTTGCTTTTAGTGCTATTAGTTCACTATATGCGTCTAGC
CC

15 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 894>:**GNMPI84TR gnm_894**

ATCATTCTCAGATCCTCATCCTCGCTCCTGTCAACGCTTCATATTGCGTTTCTTGATAG
TTCTCATGGGTGCTGTCTCTAAGGTAAATGCATTCTTCTCAATGTGAGTACCGTAAACC
TTTCCGTAATTGTGCGTCTTGTAATCTTCGTTTTTCATTGACGTAATTCTTTTCAGGGCAA
20 AGGGTTTATATATATCTTCCCTACATGCAAACTTGGCCCTAAAATCTCGTTAGAGGTCA
GGGCCGCTCTTAAGTCTTTAGTTGCTGCTATTATTTGATTAAGTCGGTCATTTTCGGCG
TCAAAGCAGCTCTCAACTTCTTCTTCATTTTCTTCGCTGGCTTCGTAAAAGCATCAGGGA
TTCTATTCTATCTCGGTTCAATGTCGTTCTCTTTCAGCAACCTCCTATGTCTTCTTAA
ATAACGAATTCTGTCGTCGTCATGCAGCCTCTCGGGGCATCAACTTAATAATCGTAATGC
25 CCTCAACTACTGTCAACACCTCCCTCTCTATCGTCGCGATCCTCGCGGTCTGATAAACG
TTATCTTAAAAGCCTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 895>:**GNMPI85TR gnm_895**

30 CGCTGGGTCATGAGTGCTTGACGCTGCGTCTGCGGCGGTAGCAACAAAGTGGTTCGCTTC
GCTTCTCTGGGCACTACAGTCCGTACTTTGGGGTCCTAATTGCCCAGGCCTAGGCGTG
GGCAGGGGCATCCGCAGCCACGGCCGCGCCTGTGTCTTGCGCAGGGCCGCTAGTATTCGT
CGAGACCCTCATTAAGTACTATCGTCCAAGGCTTCAAACTCGGGGTCGTGGGGGT
AGTATCTTCAGCATCCGTAACCCCTCGGGGTGCAATAAAAGCCGGGGATTAAATCCAGTT
35 CACGTTCTAAACACGGGCGTGGGCATAGGGGCCGTCAGCATCATCATTGCTCTCGCGGTG
GGTATAGTCGGGGTCGTAAATACTTCCTTTTCGGGGTACTGGTACGTTCTCTATCGTCAA
GAGGCGGTCTTTATCTTCGAACTCACCTCCGTACCGTCCGCGGCTCCGAACGTAATCGC
TTCATCTGTCAACGTAGCCCTCGCCTCCAAC

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 896>:**GNMPI86TR gnm_896**

TCCGTAAGTTAACTCATAGGTGGACATTTGCGCGCGAAAGTACCCCGAGGGGGCTCGCC
AAAGTCGTAATCTGGCCAGCAACCTGGCATTAAAGTAAAGATTACAGAAATAAATGTCTA

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5 GGAATTATAGGGGAAAAAGTAACGGGGGCCAACGATGCTTATCGAGCGACCGACTGGGC
ATTCAGAGGGCTAGAAAAATGTTGGGCTGCCGCAAACCAAGGAGGGGCTTAAGGGGAAAA
GAGGGTGCCATTAAAGACGATAAGCATAAACATAAGTAGCTTAAGCAGGAAAAGTACCAG
ACTGACAAGCACGTAAGAATCGTAAGCTGTTTCTTCTGAGTATATTAGAGGCAGCAGAA
10 GCGTAGGCCAGCGAAAAAGTAGCTGCCGAGGAGCCAGGGTGGGAGGGGCAGGGGGCT
GTACGACAGAGAACTATACTTACGGGCTAAGTAAGCTTAAAAAGCTTCGCTTAAGTAGTA
CGGCAGAAGGCCCTACTGCTGTACTATTCAGAAAATCTTGAAGTATGGTGAGTATTTAA
AGAATCTTAAGAGGAGTGCTCGGAGTTTCTTAAAAAGCTTATATCGGGGGGAGATCTTA
15 CTCGTAGATTAAGCCTGCAGACTCTTAAGAGAGACATAAACTGCGTTCTACTAGAGTGA
CATGAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 897>:

GNMPI87TR gnm_897

15 GTATAGCTTCAGCGTCCTGGGTGCGGGCCGGGGCCGAAGTTCGGGGTGAATGGGCCTAGA
AGTCGGTACGGGCATCCTCCTAACCGGCCCCCTCAACCACATCAACTTCCAGTGGATCTT
CGGGGGTGGTACCAGCCTCCGGGTAAATTGCGGGGTGAGCTTTCAGAGGGCAGCGGTAA
GGTCGTAACCGGTCTTTGGGAGCTTCGGGTCTATTCTAAATTCTTCCCGTAACCTTGT
CCTCTAGTTGCTTCCAATCCAAGTTTTCGCTGCTTCAGGCATCCGGTAAATTTCTCTTT
20 CGGGTAAAGATTCCCTCAGCGCCATCCATACCAGCTCTGCATCAAAACATACTTCAGATT
CGGGTTAGGAGTCCCTCGCCCTCATAGGAGCTGTCTACTAAGGAGTTCGTCAGGATTGC
TTTCAGATTAAGAGGTGCAAAAATCGTCAAGTGCTTGCTAACATCTCCATAGGATTGCT
CCTAATTGTCAACCTATCTGCGGGCATCAACCTCCGATCTTCAAAAAGCGCTAAATTTTT
AAAAGAGCTGAGCTAGGTTCAATCTTTGGTCTAGATCCCTAAGATTGGCTTCATCTCCCA
25 GGTGATGATTGTACTGGTCTTAATAATTATAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 898>:

GNMPI88TR gnm_898

30 CGTAAGAAAAAATACTCGTACTCCTGGCAGGGGCCCTGCGCCTCTCTCGGTGCTTAAAC
TCTCTCGGTTACTGGCAAAGCGGTCTTAATCTTTCTGCTAGTAGTCTAGTTGCTATTG
GGCTCAAGACCAAGAACCCGGCAGCATCTATTTGCGGGTAATGTTAACTTCGGCTGGAA
TATTATTATCCGGGAGGTAGGGGCTCAGGGGTAAAGTTCAAAGACTTCAGCCAGGGC
TCTTAAAGTGGTCTTGGGGCTTACGGGCAATCGTGCTGGGGGCGTTGGGGTCCGGAAGGT
AAAGGGTCTGGTGGGCTTCGTTTCATCATATTACGGGGATTCTTCTAGTTAGCTTCTTTGC
35 TAGGGTGGTTGCAAAATATCTCTATCTTGGGCATTACTTTCGTCGGAATCTCGTGATGCT
TCGTAAATCCGAACTAACGGCGAAGAGGTAGTCGGAAAGCGGCTATTCGACTCTAAAG
AGAGGCTCCGGGGAACTCGGGCAGAGGCTTTATCGGGGTCTCTGAGTGTCCTGTCCTCA
GGGAGCTCCnTCGTATATAAGTAGAAATCCCTCTATCTACTTAAGCTAGTAATCCCAGG
CGTAAATAAAGTTGGTAAGCTTG

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 899>:

GNMPI89TR gnm_899

45 GACAGACAGGCTCTTAAATCCAAAGTCTCCCTAGTCATCCCTACTTTCACGCTTAAAGGC
CTGGTAATTCGAGTTAGATTGGCCGTGGCTACAGCAGACCTCTCCAGGGGCGGAAGTACT
TTCAGCTTCCCGTTGGTTGCATCTACAGACATCAGCAGCTTCTCTTTTGTGCGTGCGATT
CTTTGTAGCCTTCTGGTAACGGCACCGTTCTACGTCTAGGGGTGTACAAATACTCTAGTC
ATTCGTACCTAGGTCCACGCCAGCTCTCGTACAATTCCAGGCTTCGTGCAAAAAGGATTCT

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ATCCGTA CTCTCATCGCGGTTGCTTTTCGGGCTTGTGGTAAACATCGCTAGTCGAAAGATC
TTTAGGTCCGTCCTACCTCCTACCAGCTTATAGCCGTAATAGGGTACATAGTGGTATG
TTTAGTGGGGTTCTACATAGATTTAATACTACGGGTAAACCGGGCCATAAAC

- 5 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 900>:

GNMPI90TR gnm_900

CCTTGTGTCCCAACCTGCATTCTCGGCTACTGGCTACAATAACCGGAGTACAGGCTATGG
GGTCAGAAACCTGCTTCTTCCCCTCAATATCTTCTTCTGAGCGGCTTCTTCTAGCTGT
CTCTTGCTCCTCCAACCTCCGTCAACTTATCTTTCAACGCCGTACCTGCCCTACCTACACT
10 AGTTTCTGGGCTCTCCTAGTTCAGCTTCGTGCAATATCTATATCAGCAGCTACCAAAAT
CCTACTTGCAGGCGCGCCTATCCCTACCATAACTTAGGAGTTACTCACGGTCGTTCTTAG
TGTAATCTCCTCCTCGACTCCAGCATCAAAGTCGTTCCGGCTCTCTTCATCATAGTCTT
CAATCTCAATTCTAATGTCTCCATCGGGGTACATCCTAGTGATTGCTTCATTCAACCT
TACTGTATCCCTCTAAAGAGGCGTGCTATGGCTTCATCTGGGCCATCAATGCAATCGT
15 TTTGCTTAGGCCCAATATCAAGCTCGTTTCAACCTTGCTAACTTTAAGATCATGCCTGC
AGTCATGCTTCTCCTGATCCTCTAAAAATTCTCGCCAATTAAGTTTTTCACTATATTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 901>:

GNMPI91TR gnm_901

TTCTGGGCCCCGCGGCTGCTCGGGTTTTGCTTTTGCTGGTTCTAGTAGGCTTCATAAA
GTTCTTTTGAAAAATTAATAACTTCGGAGGTGGTACATACTAAATCCGGGCTTCTAACGT
AAGAGGTAAATGTTCTAGTTTAACTTCGGGTGCGGAATTCAGGTAACACGGTCAGCGG
CAGCAAAAACCTCGAAGATGAAATAATACTTCTACTAAGATCTAAATCTAATGTCCGCCA
GCCAGGTAACCTAAGTTTTAGTGCCTATCTCCTCAACTCTCCCGAAGGCGCAATTACAGG
25 CATACTACGAAGTTGGTTCGGCGCAATCCGGAGAGTCAACGTCTCCTAAATCTCTTCAA
CGACGTTCGGCTTAAGTTCGTCCCTAGTTCGGCGCAAGCCTCCTCCAGGCAGGAAGCTTCTG
GTCCGGATCTGCATGGTCCCTCGGTTGCGGGGCAAGAACTCCTAAGTGCATCCCTGGGCAG
CGGGTGGTCCCGAAACGTGCGAGGCCCCCTAAACCGGGCCAGATTGTGCAGCTTCAGGAT
ATTTGAGATTGGACGTGCTGCTGCAAAGTAAGCTCCCTCGGGCCCCGAAACAGCGTAAC
30 CGCCGGGTCCCGAACAAATAAAGGCCAGGGGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 902>:

GNMPI92TR gnm_902

TTACTGGTGCATCATCTGGCTACAGCGGCTACTATACCCCTACCAGCTCCTCCCTAG
35 GCTAATCCTCCAACCTCCGATTGGTTAGAGCTATAAACCTAAACCTAGCCGCTCTCAACG
CGGTTCTATATCTAAGAGCTCTCAGGGCATTCTAATCTTCTAGTCCTTATCGTTCCGA
GTTGATGCTCCCTAATCTACCTACTACTCTCCACCTCTACTTGGGTGATCGTACTGTCTT
CGGTCTAGTCGGGGCCTCTATAATCCTAATTGTATTAATATGCTTCAATGCGAGCAAAA
TCGCGCGAATAAATATTGCTCTTATCGTAATATTACTGTTCAAGGTTCAACGTGGCTGTAA
40 TCGAGGTCTCTATCAAGGATCTTCTCAACGTGTGAAAAATCTTCATTTCATTCCTGTAA
GCTTCATAAGAGGGTAATCTTCGGCTTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 903>:

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GNMPI93TR gnm_903

5 GCAAAACCTTCGCTTCAGAACTTAACGCGGGGGGCTCGGGCTCTGTCGTGGCCTCCAG
CCGGCACCTAAGCATTCTGGGTAAATAGTCAAAAGCTTCAACGTACTCGCCTCAAAATCAT
TACTACTAGAAAGATTCTAAATAAAATTCGATTCAATCCTAGTGGTAGAAATATGCTCCC
10 TAAGATCAGAAAAAGTAAGTTTCTTTTGCCTGTCCGGTAAAATTCAACCTCAATATTCC
TCCAAAAAGTATTACCTTCCTAACTACTCAAATTAACACCGGTAGTTATAGAAGTCGAGC
CTTCCAATCCAATAGAGTTGCAGTGGGGTTTAAAGAGCAACTCGACCGAAGTAGCCTCCA
AATCTTCAGCTGTAACCTAAAAAATCTTGCCTTGAAACTTCGAAGTAGTCGAGTCCTGGG
AAACGATCATTAAAGTCCGGGCACTACCAAACATATCTTTGTTAGGCTATTTCTACTCG
15 TACTCAATCCAGGCTTACTCTAAGAAACACCAGAAATACTTTTCTAGTACAGAATCCGG
GCTTGGGGTAAGCTTCGTGCAAAGCTTCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 904>:

GNMPI95TR gnm_904

15 TTGGGAATCGCTTGGTCAATATCCGGGTCTTCGTCTCTAATACTAAGATTCTTGGCTTCG
CCGTCTCCGGCCTACTTGCAGAGGTTCTTATAAACCTCTAAAGTTTCGTTTCTCTAGAGGC
TAATAATATTCTCGTTACGGTTATTAATACTCGGGTACTACTATCCTCCTAGTCCTAGG
CTTTTCTTCTCAGCTTCGTGCAAATACTCAGGCTATCCAACCTCCTAGGGGTGATGGTTGG
20 CCCTACCATAAAAGGCAGCTTCAGATTCAATATCCTAATTCGGGGCTTCTTTCGTTCAT
TCGGGTAAGTACAAGCTTCTTTAAGGGCGTCTCGTTCATAATTAAAGTAGGCCCTTATGG
AAGTGCTATAGTTAAATTGAAATCTCATAACCTCTCTTCATATCTTATGCTTCTAATACC
TCATACTCAATTTAATGTAGATGCTCCTTCCGTAAATATTTACTTAAAATGCAATAGTAC
ATATGTCTTTAAATCCGCTCATTATGGTTCTTTTGCTTCTTTTGCTTTGGATGGGCTAC
CGCCCGTATCTAGAGCCGGGGCGCTCTTGGCGTTCTCTAAGTTCTCTTAAGGTACGAG
25 TGTCGTGGCTGCCATCTCTATGTGCTGGTAAGCTTCGTGCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 905>:

GNMPI96TR gnm_905

30 CTCCCGGGTCTCTTAAATCACAGACGTCTCTACCCCTCCTAGACCTCCCGGCAGCTACGC
CCCCTACAGCTTCCGCCGCGTGGTCGTCTGCGTCAGCGCCGACCTCGGCCCGTCAA
CTCCAGGGCTGCTAGCATCCTGGCTCTTAAGCTTGCTCTTGCAATAATCGTCAAAGGCAA
GGGGGTCAACAGGGTCGGTAATACCTCCAGGGTCTTATCTGAAAGGTTCTATGCCGGGG
CACCAGCACCTCGGCAGAAGTGGTCGGCGGCAGGGGACCTAAGAAAGTCCGGGGTACCCG
TAGCAGGGGAGCGTCCCCCTCCAAGCTGCAACTCGCAAGGAGACTCCAGAGCCTCCTCC
35 TGCGGCTAAACTGGCCAGGCCCGAGTCGTTGTAAATGGGAGACGCCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 906>:

GNMPJ16TF gnm_906

40 GTTGTCCAGTGGGGGGGGGGGCTTTCCACATCCAGCGCGTCTTTCAAATCGCAGCGGT
ATCGTGGTATTCAAAACCTTTCAGGTCAAACAGGTTGCCCAATACGCGCAACACTTTCCA
CAGCGGACGCGAATCGCCGAAGCCTTGTAACACGCCGTGGAAGGATTGCAGACGGCCTTC
CATATTGATGAAGCTGCCTGAGGTTTCGGTAAAACGGTGCAACCGGCAGCAAAACGTCGA
AAACGTCAAGCACGGTTTCGCTGAAAACGGCGTAAACGCAATCAGCCTTTTGGCCGGTT
TCAACGCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 907>:

GNMPJ71TR gnm_907

```
5  GACGAATCGGTGTGGACTGAGATGGCAAAGATCGTGTGACCCTTAAAAGGTCGCTTAGT
   GGCCCGGCCCTAGCCTACTAACGATATCGGTGGTGCCTGTAGCTTGTCCGTCCTAACT
   ACTAGGTGGCTGGGTCCGGTGCTGTGTAGTACCCCTCGTATGGCCATGTTACCCGTGGG
   TTGGTGGCGTAATATAAATAGTTGATGGTGACCCTCGTTATAGGGACGTTGCCGCTGTCT
   AACATTGTGTGTGCTAACGTTGACCCTGTTGAATCTGCCGATGACGACGATTTACCCCTG
   CCTGGGCTCCCCCGTGTACTAGGTCCCCGAGTGTGGCGGCCCGTTCCGCCGTAGAAAA
10  TTCGAACTAGGCGGATCCCGGCCACCCTACCCTCACGCGACGCTTATCCCAAACCC
   GAAGACAGGGCGCCCCAAACGACCAACAACGCCAAAAGCGACGGTAGTCGCCACTACGC
   CTCTACTAACCGATAACCGGCTTAGTAAACCTGACACACTGGTCGATACTGTTGG
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 908>:

GNMPJ73TR gnm_908

```
15  GCGTGTGCGAAACGGTGTAGGACCCGGCCGACCACGTTGACGAAATGGCGTTGATTCGTC
   GGCGCCGGGCATGTATGGATGCATTGGGTCGACGTATCCCCAACGGGTAGCCCCGTGTA
   AATGGCAACGTGTTAAAGTTATTCGTTGTCCCGACCACTTGTCAGTACAAGTTGAAGAG
   GTGCAGAAACCCCTAGCCCCGAGGTTCCAAACGCGACCCCTACACCCAAGGTCCCCCAA
20  CCCACTCGCCCCCAATGGGAGGGTAGCACGTTGACCATACTTGTACTCTGTGTGTGTGCT
   GATAGTTCGTGTGACACTAAACTATTTTCTACCCCTTCGTTGTACATGGATGGCCTGCGT
   TCCACCGAACGTGGTAACATTAAAGCGACCCGATTGTCCTTACAGACGAAAATGCCTTG
   TTGCCCTCGTGTGGCAAAATTAAGGTCGGGCAATGGTGGAACATGGGACGTCGTTCCGTT
   CTAATCGTCCTTTGGACGTCTTGTGAAGTCCTGGTGGGTAATAGCTTGGGTGTATATAA
25  GAAACTTAATGCCCGACTGGGTGCCTTTCGTGTGTGGCTGCGGA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 909>:

GNMPJ75TR gnm_909

```
30  CCTGGGTAAAGTAAACCCCTGGTAAAGTAAAAATTTTGAACAACTGGGGGCCCTCGA
   ACGGGCGCCCGGTAGCGATTTCATCCCTGTACGGAAGAATTATCACTACTGGTGTGCGAG
   CTGCCCTATGGCTTCGCCTGGGACGGGAAGGTGCGGGATTAATCTGTCACGGTTGTTAAA
   TCCAAATCGCCATAAACTGGCAAAGTTCCAACTAACACACCTGGCAACGATCGAACTAGC
   TAGCAAGTCCCCACTCTCCGAAGCCTCCTAAACGACAGAGCTAAGTTCTATGAGTAACCA
   GCACGGGCCAGTCCTATGTGCCATTGTGTCCCTATATTTTATTAATAATGCTTCGGCTC
35  TGAATGATCTCCAGCGTGGCCAAATTGTAAGGGAAGCTCTACTCCTAGGTGAGCCCTGT
   GTCCAGACGTCCCTA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 910>:

GNMPJ76TR gnm_910

```
40  TTGCGCTAGGACGCTCGTTCGACATAGTTATGTTAAAAACGTGGTTGTGTTTGTATTGCG
   CGTGATAATGGTGATGCACCCGTTGTGCACGTGCCTAACGTTGCTCGAAGTTTCGTTCCG
   TTACCTTTTCACGTCCCGATTGGTTGATGTCCTGGATACTCGTATGATGGGACAAATCGAC
   TGTTTAATGGCTCACTTATACTCGACTTCTCTTGGTACTGTGCACTAGTTAAAGTGCTAA
```

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ACTCCTGAGCCTAAAATTCGTACATTGTTTTGTTACCCCTAGTAGGCTTTGGAGGGCAA
AGGTGACGAGTAGTGAAGTGGGCATGTCTAACACGGTGTAGATGGCTAGGTAGGTAAAAA
CACCTATTATTTGTTGCTAGTTCCTTAATTTAAATACCCGGATGTAAGTGTAGGTAGG
GTAGGTAACTAGTAGTTATATTAATGTTTACTGGGCCCGTCCGGCTGGTGTAAAGTT
5 AGTTCGGTACTTGTGATAATACAAACACTGTTTATATTAATACGGGTAGGACAAATGTAG
TGATGATTTACGTTGTGTTCACCTTCGCCCCCTTGCTTATACCTTAAGTACACCCATT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 911>:

GNMPJ77TR gnm_911

10 TAGGCGTGGCTCCTCGTGGTGGGTCGGCAAATAAGGCCGAGTTGTTGCCTGCCCCGGCT
GCACTCCCTCCGTTAAATTAATTGCCGCAGGTAACCCTCCCCCGTCACTTAAGTCGCCC
CCACCGTTGGCCGAGTAACACTCCCACCGTTCGCAACGGCAATGGCGGACCTCCCGCTC
CGACCGCGGCCGATAACTACTGCTTTCCTACTGGCACCCGAACATGGCGGAATTAAAGT
TAACGTTTGCCCAA

15

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 912>:

GNMPJ79TR gnm_912

TTTCAGAACGGGTGCTATTCATACCGTGCCAGGTTTCTTGCTCTCCAAGCATCAGGTCC
CGAGGGTGCATCCGGTCCCTAGGTTTCATAACCGCCAGGGGTAACCGCGGCGAGACCCGC
20 GACCACAGGTGCAAAACCGCACGGAGACCCGCGCAAACAAAGCTCGCCAATTCCTCAG
CCGAAGCATCCCTAAAGTGGCTCCGGTCTTTAGGGTACGCTGGGTTTCAGGGTCATCAT
GGTCGTGGTTCTCTTCGCGAGTAGTACTCGGGGCCTAATCGGCCCAATCCTCCATCCGGT
TCCATCCGTCCGAGACGCCTACATGTTCTCTTCAGCACTACTAAGAAAGTCCCGCGCTC
TCTGGCGCTCCTAAAGCGCCTCATAGAATTCTTCAAACACAACCTCCAGAACCTAAAGGT
25 CCCCCGTGTCGCCGCGCCCTCTCCCTAGAAGTCAGCATCCTCACCTACGTGGCTCGGGT
CTTCTCGTTCGAAGTAGCGCGCTTGTTCTGCTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 913>:

GNMPJ80TR gnm_913

30 CGTCGTGCAAACCTCTGGTTGGCCGCCGAAATTTAGGGTAAGTCTCCGGGCCCTAACTG
CCGCCGCTACTGTCTCTTATGTCTCTAGTTCTACCGCTCATACCAAAGAGGCCTCCCATT
ATGCTATTACTGCTGGCGGCCATAACTTGGGAGTCTCGGTCTCTGCCAAGTGCCTTTAAA
GCGGTACAGACCTAACCAAAGTCCATGCTGGCGTCCGAAAATCTGTGCTCTTGGCCTGC
AACTAGTCTCTCTGGTGACTCCTTCTGTCTCTCCCGTGGCAAGTCATACTCTCCATCTAA
35 GTATTAAGAGGGTTCTTAGCTACGTCTCGGGTGGTCTTCTTACTAAAAGCTCTCTCAGGG
GTCCCGTCAGCCCGACCTCTCTGAGTGCGGTCTTCACGGGCCGTAACCTCCGAATCTCGCG
GCCGATTACAGACATTTCAATGCGGGGTACCTTCGTGCAATAGGCCTTCCAG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 914>:

40 **GNMPL04TF gnm_914**

TGAGATAATTCGCCCTTGGATAGCATGGAAAACATGACCGAAGAGCTGCAACACTGCTT
TGAAGCACCTTTTACACGCTCGGCCCGCTCGTTACCGACATCGACCCGGCTACGACCA
CATCACCTCGGGCATAGGCGCGGCCAATATCGGCTGGTACGGCACGGCGATGCTTTGTTA

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CGTTACCCCGAAAGAGCATTGCGGCTGCCCGACAAAGAAGACGTGCGCACCGGCATCAT
 CACCTACAAACTCGCCGCCACGCCCGATCTCGCCAAAGGCTGGCCGGGCGACAATT
 ACGTGACAACGCCCTGAGCAAAGCGGTTTCGAGTTCCGCTGGCGCGACCAATTTCGCTT
 AAGCCTCGACCCTGAACGTGCCGAGAGCTTCCACGACGATACTCTGCCTGGCCGAAGGCG
 5 CGAAAATCGCCCACTTCTGCTCGATGTGCGGCCCAATTCTGCTCGATGAAAATCACGC
 AGGAAGTGCGCGACTACGCCGACAAGCAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 915>:

GNMPL55TF gnm_915

10 TCCTACCTTTTCTTATATGCTCCAGTGCAAAAGTAAAAATACCACTTGGGATATGGAGAG
 GGTTTAACTTTGTATTGGGTTGGCACGACGACCATCAAAACCTGCCCGTCATCGCCAAA
 ATCGCCGAAGATTGCGGCATCGCCGCCCTTGCCGTCCACGGACGCACGCGTACGCAAATG
 TACAAAGGCGAAGCGCGTTACGAACTCATCGCCGAAACCAATGCCGTCTGAACATCCCG
 GTCTGGGTCAACGGCGACATTACTTCGCCGCAAAAAGCCCAAGCCGTCTCAAACAAACC
 15 GCCGCCGACGGCATTATGATAGGGCGCGCGCGCAAGGCAAGCCGTGGTTCTTCCGCGAT
 TTGAAACATTATGCCGAACACGCGTGTTCGCCGCTGCCTTGAGTTTGGCAGAATGCGCC
 GCCGTATTTTGAACCACATCCGCGCCATACAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 916>:

GNMPL69TRD gnm_916

20 AAGTTGGCAACGTCGTTTGCTCGTACTTAGCCCGACCGTTTGCTTGTCGTGGCCGAGGGT
 GGCAATGGCTAACCTTGACACCTGAACGCCCCCTCCGCCTGCGAAACGTGCTAGGCA
 AGGCGTAACAAAATGGTGGATAATAGTAGATAGTCCACGGTGGTAAATTACATTTAGTG
 ACAACACAGCGGACCAAAACCAATTAGCATAGTGCCGTTCTGTTCCAGTCTAAAGAGAA
 25 TGACCTCTCAAGGCGTCGAAGTATTAAGCGAACTGGCCTTGCAATCACCCGCATCGCTCGT
 GGTCTGCTGTTCCGCTTCGACCCAAACCAACTTATCACACCCCTATGTCCATTTTCCGC
 CCTCTAAACGTTTGCTCGAAACAAGTGGTCCAACACACCGCCCATAGCACCGGGAAGTACA
 ATAGATAAAACGTTGCTCGAAACACCCCTAGATGGGACCCCTCCACTTGAATGGACCACC
 CCCGTGCCCTAATTGTCCCTAACGTATGT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 917>:

gnm_917

GGCTAGGGAGAGGGCGGCAACCGTAGGTTTGCTTGAGCGGTATTTTCAACATACAGGCT
 GCTTTTCAATTCGTTGAAACCGCACTTTAGCTTCGCAGAAACCCCGCTTCCTTCGGAA
 35 GTCGCTTTTTCAGACGACTCCCTACTTTTCCCCGCCGCAACGGGTTCTGCCTTTTAA
 CGCCGCCCTTCAACTGCTCCGCCGTTGATCAAACGCGTCCGATGTTGCCTkTCATCAGG
 CGCAGACCGCCGTCGGGGGAGAACGGGTTGTGAGCTTTGCGCAGGATGTGCTCGTTGCCG
 CTGGTTTCGGGGGCTTCGCGCCATTTCGAGTTTCCCGTCGTTAAGGATGGCGCGGTACGG
 TCGATGATGAAAATCCAATCGGGGTTTTTCTCTTTGATGTATTTCGAAGGAAACAGGCTGC
 40 CCGTGCCCTGCGTTGCG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 918>:

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GNMPO23TF gnm_918

ACTTCATGTTACGTTCAAAAATTTAATGCACTCAATATATTTTTTTAAGGAGAAGCAGGT
 GAGTCAAACCGATACGCAACGGGACGGACGATTTTTACGCACAGTCGAATGGCTGGGCAA
 TATGTTGCCGCATCCGGTTACGCTTTTTATTATTTTCATTGTGTTATTGCTGATTGCCTC
 5 TGCCGTCCGTGCGTATTTTCGGACTATCCGTCCCCGATCCGCGCCCTGTTGGTGCGAAAGG
 ACGTGCCGATGGGCGGCGCATGAAGCGGTGTGCGCCTTCGACGCCGCTGTCGCTCCATT
 GAGGGACTGTTCCGGGCGGTGCGGCGAACATCATAAACAGGCGGGCGGTGTCCGCGCCGTA
 GCGGTTAATCAGTTCTTTCGGATCGACGCCGTTGTTTTTGGACTTGGACATTTTTTCCGT
 10 GCCGTGATGACGACGGGCGAGCCCGTCGGCTTTGAAGACGGCGGAAATGGGGCGGCCTTT
 GTCGTCAACGTCAGCTCGACATCCGGGGGTTGATCCAATCTTTGCCGCCTTTGTCTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 919>:

gnm_919

GCGGGTTCGGAAATGTGCTGAACCGGATTATCTGCTGGGAATTGCTTTGCCTGTTTGA
 15 CCGTGGCGTATTTCTGGCGGTTGTCCTGACGGTTTGGTGGGCGTGGGCAAGGGCTAAAT
 AAATCAATGCCGTCTGAAAGGTTGACGCGCATTTTATTGTATGTCTGCTGTGCTGCGTA
 TCAGTCCAGATTCAATACGGCGGAAGTGTAACGCTTGCACGTCGTCCAAGTCTTCCAG
 CGCGTCAATCAGTTTTTGCATTTTGACGGCATCGTCGCCGAGAGTTCGGTTTCGTTTTG
 20 GGCGCGCATCGTAACGTCGCCGTCAACGGATTTGTAACCTGCCGCCTCCAAAGCGGATTT
 TACGCCCGCCCAATCGTTTGGCGCGGTAATGACTTCGATGGAACCGTCGTGTTGGTAAC
 CACGTCTTCCGACCGGCTTCCAAAGCCGCTTCCATCAGCGCGTCTTCGTCAACGCCGGG
 TTCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 920>:

GNMPP87TFB gnm_920

TATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCC
 TGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACGATTCAGGTATTCCTGACG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 921>:

GNMPS93TF gnm_921

CGAAATTTTCATGCCCTTCGGCTTCTTTGGTGAGCTTGACGCAGAATACCATGCGTGCCAAA
 ACGGATTCCTTTGCTGTGTTCAAAAATAACGGGGTGATTTTAACCGATTAAGGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 922>:

GNMPS95TRB gnm_922

CACCTCCTCCACCCGAAGAAAAAATTGATCCGGGTGGAATGGGGTCGGCGGCTGGCCCC
 GTTAATAGTAGTCCCGAATCGTCTGTGGGTACTGGTGCGCCCGTTGTACCGGGTCCCACG
 GTGTAGGTGGGTGGCAAGGTGGCTAATGAGGCCGTTCTAGGTGGTACTGGCCCGGTGCC
 40 ACTGTTCCCTTGATTACCACTAATTAGGTATTGACGGGTGCGTTCGACTGGTACACCGCCC
 CCTGGCCTGTGCGCGCCTGTTGGTGCCATGCTGACGACCCCTACTTCCGAAGCGACCGCG
 GTGGTGACCTAGGATAAGTCGAATACTGGGTGTGCTAATGTTATGTCGTGCGCTCGTACC
 TTGACGGGTACCGCCCTTATGTCGTGCGCTGGCATGGTGATGGTGTGCTGTTGCCCCGGAT

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GCGACGGATAAACCTGCTAATATTCATGGGACCGCGTTGTTGGTCCCGCCACGCCGTT
GTTACTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 923>:

5 **GNMPU24TR gnm_923**

GGATGGATAAAGGCAGCCGGCATTCTACGCGTCTGTTTTAATACATTGCGGGATTGCT
GCCTGACTGCCTTAGCCCTTGCTTTGCGCGAAACAAAGACCCGTAAACCGTCTATATTCA
AACGGTTTACGGGTCTTTTTCTCTCTTGCCGTTTCTTCAGTTTGCCGATCCGACCAG
CCACCGCCGATTCTTCAAACGGTTTCCCGCGTTCTTCCCACTTAACGAACATTAAGTTC
10 TGCTACTGCTTTCAGCCCAATGTGGAACCTTGCGCCCTGTCCGAATGTTGCTGCGCGCTT
TGCTGAACTTCCTGCCCTTGCGCTTCTTCTTGTATGGGTTAAACAGCAAGCCGTTTTTT
ACATAGTCCTTGCACATCAAATCCGTCACTTCTTCACTGCCGT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 924>:

15 **GNMPU24TF gnm_924**

ACGCCGTATATTGACTGCATTAGGCTTGATGGCGGTAACCTATTCAGGGGTGGATAGATT
GGTAGCCCATTTTCAGCAGGCGATAACCAATAGCATAACGGGCGCGCCTCAAGCGATGTT
GCAGCTTTTTTATATAAGCGGCGGTGGAATCGTTCTTAATATCCTGTTTGGCGCGATCGC
CTTTATTCTGTCAATCATACACCTGACAAACTAGCAACCTCAATCGGGAAGAAAAATA
20 AATGGTAAAGATATGTTTGATAACCGGCACGCCCGTTTCAGGGAACATTATGAATGGT
TTCCATGATGGCGAATGATGAAATGTTTAAGCCTGATGAAACGGCATAACGCCGTAAAGT
ATTTACGAACATAAAAGGCTTGAGAATACCGCACACCTACATACAAACGGACGCAGAAAA
GCTGCCGATATCGACAGA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 925>:

GNMPV25TF gnm_925

TTACAACACGGTTTCTTTAGATTTTACGTTCTAGACACTAGTATGAATCCCTGCACCGCG
CAACATCGCATCTGCTAGATCCGCCGCCATCATACCACTAGCGGTTGCAGCAATCGTAC
TTCTGTTGAATCACATTGCCCT

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 926>:

GNMPV30TF gnm_926

GCTTCGGCTTTTTGGCGAGCGGTGTTGGCATCGCCGTTTTTTAAGATGCTCAATACTTGA
GTGGCGTTTTGACGGATTGCGTTACCGCGTCGGCAGGGGCGGCAAATGCCATGCCGATG
35 CTCAAAATACCGATGCCCAATGCGCTGATGAGGGAGGATTTTTTCATGATTAAGTGTCTT
AGTTTGAATATGATGGCATACTGTTTATTCGGCGGCTTTTTCCGCATTCTTTGCGCTTGC
GCGCCGCTCGGCCTTTTGGGGTAAGCGTCGGGTGTCCAAATACCGTCTCTTTGAGCC
GCAGCTCGGTTTGCGTACCATCCATGCGGGATAGCATAAACCGCCGCCCATCAGAAAAA
ACACCGCATCGATACCGTGCTCGTCGTCGATCACATGCACACGCAGGCCAGGTTGCCACA
40 ATACGCCGTCGCGGGTTTTATGGCCGCCACGGTTATCGTGAGTGTAATCCCTCCAGCC
GCCAGTCGGCCAGCTGCTTTTTAGCCTGCTTTTGCAATGCCG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 927>:

GNMPV42TF gnm_927

```
5  GTCGTAAATAGCCCTCGAAATCAAATGCCGTCTGAACATTTCCCGTTTCAGACGGCAT
   TTTTCAAACCGGACTGACGCATCGGGAGCAACCGCCCGCACC GGATAAATTTCTGCCGCA
   GACAGTTTTCAGACGGCATTGCGCGCTGTACAATATAGTGGATTAACAAAAATTAGGACA
   AGGCGGCGAGCCGACAGTACAAATAGTACGGAACCGATTCACTTGGTGCTTCAGCAC
   CTTAGAGAATCGTTCTCTTTGAGCTAAGGCGAGGCAGCGCCGTCCCTCGCAATATCCGTC
10 CCGCCCGCTGCGGCGGCGGATACGTCTGCCTGCGCCAAAACGGGCGCGTCGTTGATGCCG
   TCGCCTATCATCAGCACTTTTTTCCCTTCTTTTGCAAGGCTTTGACGTATTCAGTTTG
   TCCTCGGGCATGGCTTGGGCGCGGTAATGCGC
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 928>:

GNMPV63TRC gnm_928

```
15  GGGTAGTGAGGCCCAAAAAAGTTTGTTCATTTTGAATAGGCTGCCCTTGACTTGGT
   AAGGCTCCGACGATGAAAGATGACACCCCGGTAGGCTAGCTCGTACGGTAGATCATTGGT
   GGCACGGAAGCTGGCCTGACCCCGGGCTATGGCGTACACTAGGTCTTGGATCGGATGGTG
   GATCGGTCGTACTGCGAGCCGGCCGTTCCGGCCGACCGATTGTGTAATAGATCCATGGT
   AAAAAACCTGATGAGGCCCTTTTTGAGGAATAAGTTGCTCCGAAAATATGTTCCGTTGAT
20 GAACATTGTAACATAAGTTGTGCGAAGGAAGATGGTAGTGCTGCTACTAGTGACATGTGT
   GCGAAAGTTACTGAAAGTACTTCGTTCCATCATTATGGCGCGCATAGTGATGACTTCAAG
   CCTTAAATTATCTGTGAATATCCCGTAACGAAAAATAACATACCGTTAAGTTAAGAAGTG
   TGCGAAAAATCGCCTAATCCTCCTCCTCGGATCCTCCGGCTCGTCTCTGATTAATTGCTTC
   GATGAGAACCCCATCCATATTAATAATCGGTTGTATGAATCCCGACTAATAATGCAGTG
25 ATTATCGAA
```

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 929>:

GNMPW59TF gnm_929

```
30  CCAACAGGTGCAAAATGGTATTGGTGCTGCCGCCATCGCAATATCCATCGTCATAGCGT
   TTTCAAACGCTTTTTTGGTGGCAATGCTGCGCGGTAACACGGTTTCATCGTTTTGCTCGT
   AATAGCGTTTGGTGATTTGACAAATCATACGGCCGGCTTCGAGGAACAATTCTTGCGGC
   CGGCGTGGGTCGCCAAATACGAACCGTTGCCGGGCAGGAAAGGCCGAGTGCTTCGGTCA
   GGCAGTTTCATCGAGTTTGCCGTAAACATACCCGAGCGTGGTCGGCACGCTTGCCATGTTT
   CTTATCGGCGGCGTACTGGTCGCCCAACCTCGGCCTTCTGCACGATTTCCTGCACGCG
35 CAACACTGGGACGCTGGCTGGGCGGAGTACTTCGCCAATTTCGTTGTCGGGCTGCTTTCC
   GGTTCGATTGCCTGCGCTTCCGCCTTGCCGCTGATGAATCGTTTCGGCAGGCATTGATTC
   CTTTTTACATACCGATGCCGTTTGAAAGATGTTTACAGACGGTATCTTCCGAACCAGACAG
   ATG
```

40 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 930>:

GNMPW71TR gnm_930

```
CTACTAGATGAAAACATAGAGGTAGAATTTTCATGACATCAGCATGGGCAATTATATTTTA
CACATGACCCTAAAAGCACAGGCAACAAAAGCAAAAATAGACA
```

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 931>:

GNMPZ21TR gnm_931

5 GCTCGGTACACCAGGAATGGTCAGCAACTTCACAGAACTCCTAGTGCCACCTTCCTTTTT
GAACTTTTATGACTTCTGGACAGCGTCATGATGATTGTCAAGTGTACACACAGTGGA
AGTGTCTTTTTTTCACATCCCCTTTAACCAATGCCACTGCGCTGCCTGCGATAATCTGCG
AGTAGGCTATGACTTTTTTGGCGTTCTTGGGGTGACAGTTTGCTACATCGCGTCCGTCCA
ACAGGGTTTCTCCACCATCTCGCCGACTGCCGCGCCGATTGCGCCGTCTCGACATTTGC
CTTTATTTGCTACCGCCGATGCACAGCCTGCTACGGCATGCGCTATCTTGTGGCAATGT
10 AGTCTTCGCTGAGATTAAAGTTTGATTTTG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 932>:

GNMPZ44TR gnm_932

15 ATCGCCCGTCTCAATAACCAATAAGCCTTTGCTCTCGATCCGACCACCATTTGGAGATAAA
TGTGCCTGCCGCTCCTTTTTTCGGTGGTTTCGATGGAGAGATAAGTCGGTGAAGCTTCGGT
GCCGTCGGCAGTGGAGGCGATGCGGCCGCTGTTTTCAATGCGGACTGACGAAGTCACAAG
CAATTGCTTGGCCGCTTCGAGTGTGACGGCATTTTTGACGCCTACGCCTTTTTCATTGGC
AGTCAGTGTGATGCTGTGCGCGTACATAGCGCCAGTGCGGCAGTATCAAAGGCAATAGT
CGGTTTCGTACCCGCTGCAGTACCTGCACTGATTTGCGCCGCTGGCGTAATCTACTTTCTG
20 AGGACCGGTAGAAACCGCCAGGTTTTTACCCTGTAATTTCCCTGCAGAGCAACTGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 933>:

GNMQA27TRB gnm_933

25 CAACTCTGCGGATGGGGCAGGTAACATATGTTGCCCTATTTAAAAATTTGTTGTTGTG
TGAGCAGCTATTGGCAACGGCGCCTGTGTTTCGCTTTACTAGCCTGGCCATTAATAACTT
TGCTTTTACCCTCCCTAGTAGGCTGGACCGTGCCCTGCGTGACGGCCTAAACATAGGCC
GCGTGTGTTGTTGGTGCCGTTTGCGGCTCGTACATTGAGCCCGTGTGTGTCGCAATCGTC
GAGGAAACAGTTTCTGATAACGTTGCCCGAACTATGAAGTGTGGCGTGGCGGTAATGTT
CCTTGTAATAAACAGTCGTCGTGGAAGAGTGGGGGACGCGTGGCCTCCTGTGTAGGCC
30 GAGGAAACTGGGTAGGATCCCCCGTTGACGTCGCTGACTAGGAAATCGTCCCGGTGGCA
GAGTGTGTTGTTGGAGAGCGTGTGATGAGGCGCTTGACAAGATTGTTGAAATGGCGGC
ACTGAAGAGGATGGGGCAGTCGTTGCTGGGACGTCGTGGTTCGTTGAGCTGGTGTAAGC
CTGGTGGG

35 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 934>:

GNMQA92TF gnm_934

TTTCGATGCTGCCTTCAAACGCGCCGATAACACGGCTGGCGAGGAAGGCGGTGCAGAGGT
TGACGGCGAGCCACATCCAGCGTTTTTCACCGAATCCACACGGGGGCGAACAGGTCTT
CCTCTTCCTGCAAACCCGCATATTACGATATCCGCTTCCGATTCTTCGCGGATCACGT
40 CCACCAGCTCCTCCCGGTAAAGTCGCCGATTTCGGTCTTTGAAGCGAAATGGTAAGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 935>:

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GNMQB81TF gnm_935

TATTTTATCAGAATGCCGATGCTTGTTCTGTTTCAAATTAATTTCTTTTCAAATAAATTA
CTTATTCGGATTTGCCGGGGCTTTCGGATAAATTCCTTGCCAAGGTGCGGCATTGCCTGC
ATAATTCGCTTTCTTTGCCGGGATAGCTCAGTTGGTAGAGCACCTGACTTGTAAATCAATC
5 AACAATTCGGCGCTTTCACGTCATGTCGGCAATATGGGTGGCAAAGTTGCCGCCGCTG
TAGGAGATGAAGCGGTGCGGGTAAAGTTCGACGGCGCGAGTAACGTGCGGCCCTGCCCG
AATACGACATCCGCGCCGAATCGACGGCAAGCCGCGCAAACCTCAACGACGTTGCCCTG
TTTTCCCATAGAAGATTTGCGTATCGAACGGCAGGTGTTCCGCCTGTTTCCCTTCCGCG
CCGCCGTGGAACATCAC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 936>:

gnm_936

CGAAAATGAAACGGGTAAACACAAATAAGGCCTGTATGCAGGCAAGGTTTATTTGTGTT
TGACCCGGAACGGGTTTCAGACGGCACGAACCGGGATGCCGTGCCGTCTGAAAGGGGTTT
15 ATCGGGTGGCGCGGTAATCTGCGTCGGCTTTTCAAAGCGTTCTTGGGTTTCGCGCGAAG
GTTCTTTGTTGAACAGGGAAACCAACGCGCAACGATCAAGCAAACAATAAAGCCCGGCA
CGATTTTCGTACATCGTCAACAAGCCGCTTCTCCTGCCGCTTGAGCCGGTTTTTACCC
ATTCCGCCCATACGACTACGGTTAACGCACCTGCAACCATAACCGACAACGCGCCGTAGG
CAGTGATGCGTTTCCACAATACGGACAGAATCACAATCGGGCCGAATGCCGCGCCGAAAC
20 CTGCCCACGCGTAAGACACCACTCCCAATACTTTGCTGTTTCGGATCGGAAGCaTCAGGAT
GGAAATCACGGCAATCGCCAAGACCATCAGGCGGCCGACCCATACCAATTCCGACTGATG
CGCGTTAATACGCAAAAAGTCTTTGTAGAAGTCTTCGGTAATCGCGCTGGAGCAAACCAA
AA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 937>:

gnm_937

GCTTGCCGCCTATTTTCTACGCGCAATTTGACGATTATATTTTGGGCGGGCGCAGCCT
AGGCCCGTTTGTACCGCGATGTCGGCAGGCGGTCCGATATGTCCGGCTGGCTTTTGAT
GGTCTGCGCGCGCGATTTATTTGAGCGGTTTGAATGAGGCTTGGATTGCCATCGGCCT
30 CTTGGTTCGGCGCGTATTTCAACTGGCTTTTGGTGGCGGGCCGTCTGCGCGTACATACCGA
ATACGCCAACACGCGCTGACGCTGCCGATTATTTCTCCACCGCTTTGGCGGGGCGG
ACACTTGATGAAAGTGGTTTCCGCACTGATTATCCTGTTTTCTTCACGATTATTGCGC
CTCGGGCATTGTGGCGGGCGCAACCCTGTTCCAAAGCCTGTTTGAAGGTATGACTTACAA
TCAGGCAATGTGGCTGGGCGGGCGGACCATCGCCTATACCTTCTTGGGCGGCTTTTT
35 GGCGGTAAGCTGGACGGATACGCTGCAGGCTTCTnTtGATGATTTTCGCGCTGATTTTAAC
GCCTGTGATGGTCTATCTGGGCTTGGGCGGCGGGAACAGATGTCTGCCGCGA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 938>:

GNMQE49TF gnm_938

40 CCTAAGGCACATGTCATTATCCCCATTCGATAGGTGAGGACACTGAGGTTTCAGGGAGGGG
AGACATCTTGCTCCTGGACACCTCAGCTGGGGAGGAAGGCAGTGGCGATCATTCTTAGGA
ATCTCCGACCGCCATGGGCTCCTGCTCTGTGCACCTCAGGAGCTTACGGTCTGGTTACA
AAAATGCCATCTGCCTATGCTGAATTCTAGGCTTATGAAGATCCAAGACATATTCTGAA
AATCCATATTTTCATGCATTGTACTATCTT

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 939>:

GNMQE84TF gnm_939

5 GAACATACCAATTTCGAAAACATCAATAACTCAAAAAAGATTTCTTTTATGATCAAGAAT
ATACCGAAGGTTACCTAGTTGGCTTCGCCCCGAGGTTTAGGGGTGCAAAAAGAAATGGGG
AGCAGCTGTTACAACAGCCAGTTTGGCGCGTATTACGGCAGGTGTTAATAAATTTTCAT
GATATTTTCCTTCAAAAAGTGTGGCGGTAATGGATGGAGCGTTTTCAGACGACCGCC
GAACATCCGAAAATCAGTCTTCAAAAATCCGAATACGACAAATTCGTATTGGTTGCCGA
10 TTTCTTCCAAACCTGCGTTAATCGCTTCTTCGAAGTCGTAGAAATAATCGGCATTGGTGA
TTAATTTGGTATGTCCGATGTGCGCCGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 940>:

GNMQF69TR gnm_940

15 CAGCATCATCGACAATAATGCTACAAGTGTGCAGGGTTTCGTTTGTGCGGCGGTTTGGG
GCATTGCATTTCATGGTCATTTTCCTGATTCTGTCGTGTGTTGCCGAATCGGGCGACCTGT
GTGAAGGTAACAAAAAGCCGCCCGTTTTCGAGCGGCCTGTTTTCGTATGGGATGGAT
TTCAAGCAAGCGCAAAAAAGTACCGCACGTCGTGTGGTACCAATAGCAATAAGCGGTTG
TAAATTTTTTGCCTTGCATGATGAAATGCCGTCTGAAGATAAAAAATTTGGGGAGATTCT
AAATCAAAACGCTGCCGCGCCTCAAGCATTTTATCGAAATTTTTTTGATTTTTCATCTAT
20 CCGATTGAAAAATTTTCGGTTATTTTTTACCGCTGCCCGATATTGTCGGCAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 941>:

GNMQH20TR gnm_941

25 CGGATTCCCGCCTGCGCGGGAATGACGAnCTCTCCGCATCTGATTTTGGACCTCTTGAC
GCGATTTGCTGCATTTTGAAGTGTCCACCAAGATAATCATAGTAAAAAATCGTCCATCA
GCTGTTGGCTGATGTTGAGAATATTGATTTGGTTTTCCGCCAAAATTTGGAAACATCGT
ACACGATGCCGACGCGGTCTTTACCGATGACGGTGATGACTGAATTGTTACAGGCTTAC
TCCTTGCAGATATCCGTTAAAGTCCGAATTATACCACCGTTGGATTTTGAAGAAATATT
GTCAACAATATATACATACAAAATGCCGTCTGAAACTATTTAGACAGCATCAAGATTCA
30 GGGTTCGATTAAATAACCATCCTTATCCCACTGGGTTTTCTTGACCAACTTGTCATCCTG
ATAAACAGCTTCGCTCTTTTAGAACCATCTTCATACCACTCCAAAACCAACCCGTTGCG
TTGATGGTGGCGGATAGACAGTTCGAGAGTAATCGGCCGCTTTCATCCCAAGTCAGAAT
TTTGGCAGGCTCATCGTTGACCATAACCATTTCCGTCTTGATACTGCCGTGCGCATACCA
TTGCTTTCATACGCCGTTTGCCCTATTTTGCTTAAACTGGATTTCGCTTTCCTTGCCGCC
35 GTTA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 942>:

GNMQL93TF gnm_942

40 CCTACAAACCCGGCCGCCATTCACTCGCAGACTTGGCTAAGTCGGATATTGAAAATCGAC
AGCCGAATTTACAGGGCGCGTGGGACGAAGGTTTGAAAGGCTATGCCGCGCTGCGCTT
CATCGTCAACGCCTTACGCGGATGCGCGCCCTGACCTTTAAAAACGAAGTGGATTTCGA
CTACAAATCCACAGTGAAGAAAAATGCCGCTTACCTGCGCCGTTGGTTCAAAGCCCCCG
ACCGGCAAAACCTCGACCGACCATCATCTCGGACACTGGTCTCGCTGGGCTACACGA

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ATGCCGACAACGTCATCTCGCTGGACACCGGCGCGGGCAAATGCTTCCGAAACAGCTGT
 TAAAAATAATGCATTAGATATTATTTGGGATATTGGCAACCTCGTATGGGACGGCGGTAA
 ATGGATTTACGCCAAATCTATTGGCGATAAGCAGATGGCTCGAGAAGCGGCGATTGATT
 TGGTGTGGATGCCGCCGAGCTGCCGTTCCCTTTGTTCC

5

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 943>:

gnm_943

AGCGGGAAGGTTTAAATAGTTAGGACGCCGGTCCAGAAGTAGTTACTACCCAAAGAAAGT
 GCAACAGTCTATCGGCTGAGCTGCTTCGTGTGGAAGACGCAATGGGGTCTAAACTCACAA
 10 TTGAAGTCGTGGACGTTGGCCCATTTGGTACGGCAGGGGAGTGCCCTCGCAGGTCGACGAAG
 GCGTACCGCAAAGCGCTCGGAGGCACCTAGAAGCGTGAACGCCGATACGAGCAGTGACAA
 AGTGGGCGAAAAGTTTGTCTGTTGAAAGTTTAAAGCCCTTCGTGTAATGCCTACTGGTGC
 AkGGCGAGCTGGTTTTCAAGGTGAGGTAGAAACGTGCAGCTGACGGGAAATAGGCCAACA
 CCTTCGCATCCGACCTAACGTGACGCGGGGATGGAGAAGGCCAGGCCGGTAAGTCGCCC
 15 GAACAGTCCGCCCAAGTTGGCAGGCGGAAGATCCAGGTAAACTTGGGCTCCTCCAATATT
 GAGAAGCCGATGATGAGCGCTCATGGATATGAAGTAATTGACATTATGTCTTAGGAAAAG
 TTATCAAGTCCTAGCCCGAACTGAATTGCATTGTATATTGATATAGGCGGGTAGGACGAG
 AACCTCAAGGTGTCCGAGAGAATCTAGG

20 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 944>:

GNMQM32TR gnm_944

CTATCCGAACCGCTGCCGCCCTCCAAGTAATCATTACCGGCACCGCCGATCAGAGTGTCG
 TTACCGTCTTCGCCGGCTGATGTGTACCAAACCGTCTTTGCCCGGCATCACGCTGACAAAT
 CGCGCCGACATTGTTATCGAGGATTTTACCACAGTGCCCTTCGTACACTTTGCCCACTTC
 25 CACTTCGGCAGTAATCTGCTCGATGCGTTTTTTCGCCGCATCGCCGGCTTCTTGAGTGGT
 TGCGGCAATGGTAATCGTACCGTCTTCGGCAATATTGATTTCCGTACCGGTTTCAGCGGT
 AATCGAACGGATGGTTTCACCGCCCTTACCGATAACTTCGCGGATTTTGTCTTGGTTGAT
 TTTTCATCGTGAACAAGCGTGGCGCGTGTGCGGACAGCTCTTCGGGGCCCGCAACGGCGGC
 TTTTCATCTGATCCAAGATGTGCAGACGCGCTTCTTTGGCCTGTGCCAAAGCGATTTCAT
 30 AATTTCTTTGGTAATGCCTTGGATTTTGATGTCCATTTGCAGCGCGGTAACGCCTTCGGT
 CGTACCGGCCAGTTTAAAGTCCATATCGCCCAAGTGGTCTTCGTGCGCCAAAATGTCAGT
 CAGGACGGCAAATTTGTTGCCTTCCAAATCAGACCCATCGC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 945>:

GNMQN35R gnm_945

GCCTCGCCTTGCCGTACTATTTGTACTGTCTGCGGCTTCGTGCGCTTGTCTGATTTTGG
 TTAATCCACTATAAAAGAGGGCGTCTGAAAAACATTTTTCAGACGGGCTTGTTTATTCAA
 TCAAATTAGTCTTTCAACTTTGGCAACTGATTTTAACTTTTGCCATTTTGCTTCCAAT
 TCCGCCAAATCGGGTTTGCCTTTTCCCCCAAATTCAGGGGGTTTTTC

40

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 946>:

GNMQN72TR gnm_946

AAACGTCCTACACATCCTTTTAGTGCAATTTGCTTAAATTTGTAAACTTGGTAGGGCC

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CTTATCTTCGAAAAATTACCTCTTGTTAATATGTTGTGTATTGTTGTGTTTCGACTGAAA
TTGCGCCTTAGTAACAAAAAATTGTTCCCTTGTTAAATGGCTGGGTGTGTTCCGTGTTAAG
GCGTGGACGTAGTCCAGGTTGCTCGAAAAGCTGGCTAGTGTGACCCGTGGTCTAAATTGT
5 AAACGTGTTCCGTAATAAACGCCCACTGTTGCCCTGACACAGGGTGGGCCGGATATGACG
ACGCTTTACCCCTTTCCTAGATGSTACACTGGCGCTGAATTATGAATTGCGCGTAAACCTG
ATTTGTGTGTTTAAACTTGTTGTACCCCTTGTTGTTGCCCTAAGGGTGGGTGGGTGCGACG
CTGGACGTGTGTATAAATGTACTGGGGTGCCTGAGTGTGATGGCCATGGGAATTGTGTG
TCGTTTGCTnTTAAACTTTATATGTGTTTGGCCCTGGGTAGGTGTGTTAACATGGTCCTG
ATTAAACGCCTGGCCCTGGGGTGTGGAAC TAGTATGTCTGGACC

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 947>:

GNMQO54TRB gnm_947

GGGTGCATGCTTAAGAAAATTATTGTTACTAGTGTGATTAAGATTAGGTGCAACCCGCTG
ACGGGGGTGATCCGTGAGGTGCCGTTTAGCCGTAGGGTCCCAAACAGGTGAGTTAAGAC
15 GTGTTGGCAGTAAGATTGGACAGGACGAGGAACGCTTAGCCGTGTTTGCAGAGTTGCCT
ATATTTCGTTACCCGTTGGCGCAGGCCAAAAATAACAATAAAGTGGTAAGGACGATTAAG
GCGTGGACAAAGGCGGTGAACTGGAACACATTTTCGCAAATTTACCCCGGTGAAAACA
GTGGCTAACGAGGTGAAGTTCGTTGACGTTAACGTTTAAATAGTTACGTGCCGTCGTTT
ACGCCCTCTTCCGGACCGCAATAACACGAATGGCACCCCGCCGTCGTGCTAAAAACC
20 CTATCGTGGGCCCCGGCGTGGACAATGCCACAACACGTTTCGACACCCCTAACTTATTC
GCCCGCTGTTCGACGTCCCTAGATGGTACGCTTTCTTCTACCCCTCAAAGGAAAGCTACGA
GTCCTAAAATTGACGTTGAACTGTTAACTTCTTATTACGTGTTTGACCGGTGAAACCC
GTTGTTAAGTCCGGCTCGAA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 948>:

GNMQP31TR gnm_948

GCTGTAAATGTTCAAACACTACGCCGTCCACGATTTTGCCGAGTTTTTGGAGCTGTACGG
CATGCCCATCCGTATCGGCAAAATACGGCGCGGGCGCAACCAAAGAGGAAAAAACACCCCT
GCTTCGAGCGGTGGCGGAAATCGGTGCGCGGGCGTGGGCGGTGAGGCTTTCGCCGTGTGC
30 CAGCACGCTGGCGGTTTCGCCCTAATTTTTGCGCGCCCTGTTCCGAAACCTGAATCAGGCT
GGAGCGTTTTTGGAAATCATATGTCCCCAAAGGCGAGGAAAAGCGGGCGGTTCGGCTGGT
GGGCAACACATGGTTTGGACCGGCGCAGTAGTCGCCGAGGCTTTCGCCGGTGTAGCGTCC
CATGAAAATCGCACCGGCGTGGCGGATTTTTTCGCCCATTCCTGCGGGTTTTCGACTGA
CAGTTCCAAGTGTTCCGGGGAAATGTAGTTGGCGATTTTCGCAAGCTTCGTCCAAGTCTTT
35 GGCAGTATCATCGCGCCCTGTTGCCGAGCGAGGCTTCGATGAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 949>:

GNMQP64TR gnm_949

ACAAGAAGCTGGTAGCTCCACCGCGGTGGCGGCCGCTCTAGAACTAGTGGATCCCCCGGG
40 CTGCATGAATTGGCACGAGCTCGTGCCGAATTCGGCACGAGCGACTGCATTGGGAAGATC
AGTTTTCTGTCATCCAGGCTGCTCCCTCCTCAGCAACTCATTCCCACAGATCTCCGA
GACAGGACGGATATCCAGTGCCTTATCCCATGTGCCATTGACCAGGATCCTTACTTTAGA
ATGACAAGGGACGTGCCCCCAGGATCGGCTATCCTAAACCAGCCCTGTTGCACTCCACC
TTCATCCCAGCCCTG

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The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 950>:

GNMQP64TF gnm_950

5 TGGGTACCCGGCCCCCCTCGAAGAAGAAGGTCAGGTACATGAAAGACACGTCCACATCA
CAGTTGCCCCCAAACCTGCCTGTGCTCCTCGATGGTGTCTCTCCCTCCAGAAAACGCATGC
TTATTGACCTTGGTTTTGATCTGCTTGGCCGTGTCGGTGAGGAAGATGGCGGAGTTGGGG
TCGCTGGGACTCATTTTGGTCTGGGCGACCTGCATGGCTGGGAAGAAGGTGGAGTGCAAC
ACGGCTGGTTTACGATACCCGATCCTGTGGGCGACGTCGCTTGTCATTCTAAAGTTAAGA
10 TCCTGGTCAATGGCACATGGGATAAGGCACTGGATATCCGTCCTGTCTCGGAAGATCTGT
GGGAATAGATTGCTGAATGATGGAGCATCCTGTATGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 951>:

GNMQR24R gnm_951

15 CTTGCCCGCAAAAACGTGGCGTGTGCACCCGTGTATACACAACTACCCCGTAAAAAACCT
AGTGAGTTAGCATCATATTGCTGCCATTTTTCACGGTCTTTCCCTAAATAAGCAGTAAAG
GCTTTTTCTCCCCACGGCACGAGGCTTGGCGATAAAATAGGCGAAAAGGCAGAAACACTT
TGATAACGTTCTGATTCCGCAGCGCCAATACCAATGCGCCGTGTCCGCCCATTTGAATGT
CCCATAATGGAACGTTTGGCGTTGGTAGGAAAGTGTCTCAATCAGACGGGGTAGCTCG
20 TTCAAAATGTAATCATACATTTGATAATTCGCCGCCCAAGGCTGTTCCGGTCGCATTCAAA
TAAAGCCTGCACTCTGTCCTAAATCGTAAGCATCATCGTTCGGCACTTGCTCTCCGCGA
GGGCTCGTATCCGGGGCCATCACAACTTACTTGATGTTCTGCCGCATAACGCTGAAAGCTG
ACTTGGTAATGCAATTTTGTTCGTACACGTCAAGCCGGAAGCCAAATAAATCACACCAA
GCGGTCGATTTTCTGGATTATCT

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 952>:

gnm_952

GGCTGAAAATCATGCAGGACGGGTAATCGGCGGCTTTGACGGCTTCTGCCCAAGCCACCA
AGGATTCATCGGTGTGCGACAGCCGCCATACGTCCATATTGGAATCAGGCGCAGGGTAG
CGGTTTGCTCAATCGGTTGATGGGTGGGCCGTCTTCGCCCAAACCGATGGAATCGTGGG
30 TAAACACAAATACAGGGTTGATTTTCATCAAC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 953>:

GNMQU51TRB gnm_953

35 CTGTGGTGTGGGTGGGACGTTTCGTTCCCTTGGACCCAGAGGCAAATGACCCTGTTATCT
TGTTTCCCGTCCCTGGTATCCGTTTATTAGATAAACGTGGGTAGTATGCTTTTGAGTCC
CCGTGCCTGTCCCCGGTCCTGTTTGGACGGGACCCGACGTGCCGTGGGGAACCGACGGGG
TTGGGGATGAGGATGCCGGTGTGTAGGCCGTGAAGTGCTTTACCTGCTGGTGGTGATC
CCGTATAGGCAGCCTAATGTGGTCCCGGATGTGTTGAAGTTGTTTTCAGAGGTCCCGGGC
GCCCTGTTGCGGTCCCTGTTGATGAAGACGATGGATGTGCTGGGTGATCGTCCTAGTAGT
40 GGGAAATAGGGTGTGGGCTAGTTTACAGGCGTGATGGCGCCGACGTGGCACC GGCCGATT
TACCTGGTGTATGGCCGGAACCTTAGTGGTGAGAGGGTGCAAAAACAGTTGGTGTAGCGG
ATGACGTTGCTTAGCCCGTTCCGTGCGGTCTGGTAACGCGGGTGGTGAAACGCCATAAC
CTCCCCCTCCTGTGTCAACAAGGCTAAAGTAGACGGTGAACGGCTGGGGCACTTGGTC

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CTGATAACTGTGCTACATATCCCCC

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 954>:**GNMQU68TRB gnm_954**

5 TTTGATAAGGAACCCGTGTCATTCCAGGATTGCCACAGCCATGGTTGTTGCCCATCGGGT
CCTGACTTGACGTCTCTATACTCCTAACCAATTCCTTAGTATTGGGTAGGTGCTATATTT
CACATGCTTATCCCTGCGCCAGTAGAGCGTCGCGCCCCAACAAATAGCTGTAGTTATTC
ACCTCTCGTGATTTCTTGGGGTCCATGGAGTAAGCTTCCAATTCCAGAGGGTACATTCTCT
CTTTGAAGCCATGGCACTAACCCGTTGAGCCTTCTCTCGAGCCTCTCTAAGTGTTC
10 GAACCTCTACTTCGTTTATTCGCGCTGGCCCGTGGCATGGCCTGACCTAAATCGAAGTCC
AGCGGTCCCCTTCGGAAGTGCGGCACTGGCCGTCCTGCGCTGCAGATATCTGCTGCTAT
CCTCTGGCGCCAAGAAGATTGGACCCGTTCAAGCTCCTTATTGTTCCAAATAAGT
CACCTTAATAGTCCGTTAATTCAATTCCTTGTCTTTTATACGTACCCGAACCTAAGCAT
AGGAACACCAATTCGCCCTTACTGATCATGTACCCTCGTTCTGTTCCAGGGGTTGATCTA
15 TTTCATGTTGACGAAT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 955>:**GNMQU88TRB gnm_955**

CGTGTGTTGCTGGCTTGACCTCGTTGGAATATAAGTTGTACCATTGACGGGTGCAGGTA
20 TGTGGAAGATTCTGCGCATGGTGCGGTATATGGTACTGACACGCCTGATCGTGCGACGT
TTATTTGTAACGTATGTAATGGTCGGTCGCCCATTTGCCCTGGTGACCCGAAACTAAAA
ATGTTAAATATAAGTCTGATAAGTGCTTGACAGATGAAAGTCGTATTGTCATGTTTCGTT
AAAATCCTAGTTGTGTTTCATTTCGTATTACTCGTATTGTATTGGTGAAACTCCGGGTGTAT
AGCCGAATATTACTTATAACTCGTACCCTCATTAAAGCTACCACGGTGGAACGTGTGAAG
25 TTGCTGAATAAGGTAAACCCGTTGATCGGTAGGTGTGACCTTATGAAAATTGTGTATGTG
GTATAGATCGACCTTTTCGTAACGTTGCTCGAAGTTGTCCTAGATGGTACCCCGTTGTCCC
ATTTCAATTTGTATACCCCTTAGAAATTGACTACGTCCTTACCTCCCTTAGAATTTCTTT
CCCTTCACATGTAATAAAATTGCATTGTTGCCCCGTCGCCGAATTCTGGTATGTTTGATG
TGTTGATTG

30

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 956>:**GNMQX55TF gnm_956**

AGGATCCCCACGAACACAAAATGACCGTACAGACCAAGACAAAAGGTTTGGCGTGGCAAG
AAAAACCGCTATCCGACAACGAACGCTTGAAAACCGAAAGCAATTTTTTACGCGGCACGA
35 TTTTGGACGATTTGAAAGACCCGCTCACGGGCGGCTTCAAAGGCGACAACCTCCAACCTCA
TCCGCTTCCACGGTATGTATGAGCAGGACGACCGCGACATCCGCGCCGAACGCGCCGAGG
CAAACTCGAGCCCTTGAAATTTATGCTTTTGGCGCTGCCGGCTGCCGGGCGGGATCATCA
AACCGTCCCAATGGATAGAACTGGACAAATTTGCCCGGGAAAACAGTCATTACCGCTCCA
TCCGGCTGACCAACCGGCAAACCTTCCAATTTACGGGGTGCCGAAAGCCAAGTGCAGA
40 CGATGCAACGCCTCCTGCACAACTGGGTT

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 957>:

-894-

GNMQY03TR gnm_957

5 CCTACTCTCCCTAAGCAACGAGATGAAACAGCGTATCGACTCCCTGCCGGTTGAATTTTC
CGAAAAAACGCGACGTAACCAGCATCAACATATATAAGAACAGCACAACTAGCATCAATA
CATCAGGCAACGAAAATGCAGAATAATGCACTTAATGGTGTGGATATCTGTTGTTTTG
TGCTGTAGTAATTCATCTTCTGTGTTTACAGTTTAGCAGTTGTACAGTTTTATAGTAA
TGTTTAAACAATGACTGATTTATTTTAAATGCAGATATTGTCGAGGATAAACATGGCCAA
AGCCCTTTCAGTAACATTTCTGATTTTTTAGCGAGCCTTCTCATTTCGCCAGCGAGATCG
GTACTGGTACCTGTACTTTGGCCGCCGATATGCTTAAGTTCAGTAACCTTAGCGCGCAAA
TCCAGTAACCTTACGTTACGT

10

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 958>:

GNMRB37TF gnm_958

15 CACCAACCTATGTGTCGTCCTGATCTGGGAGGAGTTGTCCCTCCCAAACAAATCTGATTC
TACCGCCCCGAAGAGCGGGGTTCAACCGACAAGGAAGATTGATGAACAATATGTTTGCC
GCAAAATTGTCAAACCTGGTTTATACCGCTTCCGACCATCCTGATTCCCTGTGGAGATG
GAGGAGTTTGACCGCCTGATTCTGCTGATACGCAAACTGTATCAAATATTGGACGGGCAA
CATATCCTCTCCAGAGTAACGGTTTGCTTACCACCAAACCGCGCGACCTGATTGCC
TTGGATAAAGCGGCTGCCGTTGCGATTTCGGCAATGTTGCGCGCCCAACGTTGGCTCGGA
20 CGACATGGTCGCCGCCATAAATTCGGCGGGGTAGTGCCTTTAAGCCATGCGGTCTGGTA
GGAAATCAGGGCGTAnGCGGCGGCGTGGGATTTGTTGAAACCGTAGCCGGCGAATTTTTTC
CATGTAGTTGAAGATTTTCGTCGGATTTTTCGCGCGAAATGCCTTGTTTTGCCGCGCCTTC
GGCGAAGATTTTCGGGTGTTTACCATTCTTCGGGTTTTTCTTACCCATGGCGCGACG
CAGCAGGTCCGCGCCCGCCGAACGAGTAACCGCCGGATAATTTGCGCCGCTGCA

25 The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 959>:

GNMRF35TRB gnm_959

30 TATCGCATTGTAAATAGTAAACAAAGTAAAGTTTGGGCGGTGGAACCGGCAGATGTGTC
AGTCCTAGGCGTCAGCACTTCTATGGGCGCGGAAGCCTGAGCTCCTCTTTGGGTATTTAA
CTAAACGTCCTCCGTCACCCCTAACACCCAGACCGTTTGGGCGGTGGAACCGGCAGATGTG
TTAGTCCTAGGCGTCGGCACTTCTACGGGCGCGGAAGCCTGAGCTCCTCTTTGGGTATTA
AACAACAAACCACTTTGACCGGGACAACCTTGTACCAGAGAGGCGGACGAGCGGCCCA
AGCTGTATGTTGCGAAAGTGCACATGCGAACAGTGCAGTGAAGGCTGAACCTTCTCTT
CTCTCGTTAAACATAAACTTTAAATCCCCATGGCCCGGACCCCCACCACCTAAATAAC
35 AACCTACCGGGAAATTTGCCACCGCTCACAAGTGTACTAATTGTCCATAATCACTTG
CCATTGCCCCCGCGGCACGCCCCGTGGCAGCCCCATTCTCCTTCTAGTTCGCAAGGA
TCTAAAAGGTGCACCTTCCTAAATGGTACCGCCTGATACGTCGTTGGGAAGTTGAATTTG
ACATTGAAATGTGATGGGGTGACACATTGTTCGAAAAACGGTGG

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 960>:

GNMRH76TR gnm_960

40 CATGTTGGTGTCTCATTACGCCCTTTCTCCCAAGAATGGTAAGGACGACAGGCAACGGA
CGGTAAACGAAGAGCTTGAAGAGTTCGTTCAACTCAATCGAATCCGCCCCGTTTTCAAC
ACCCAACCTGTCTGCCGAATAGATGTAGCCGTGCCGCGCCAGCTTTTCCAAAAGCTCG
CCCAACTCGTCGTAGCCCATATTGATATGCCGTCTGAACCTCTGAACAGGCAAGGCTTTG
45 CCTTCTTTTTGCGCCGCATCCAGAAGCAGCAGGATTTCAACACGTCGTCAAACCGTCCG
CGCGAGTCGAAGCCCCTGCCGAACGCTTCTCCCTGCCAGTAGGAGAGTGAAGAAGTCAGC

-895-

CGCGAGTCGAAGCCCCTGCGGAACGCTTCTCCCTGCCAGTAGGAGAGTGAAGAAGTCAGC
ACCGCGCCGCCCAAGACCAGCGTCCA

The following partial DNA sequence was identified in *N. meningitidis* <SEQ ID 961>:

5 **GNMRI44TR gnm_961**

TAAGGCAAAAACAAGCGTTTTTCGTCATTTTGAGGCGTGTGGATTATTCCTTAGGTATTTT
CGGGCCGGAGACCAACGAGGTGGCGGGTGTCTCGGTACGTCCGGAGACCAAATAACTT
TGCCAGGGATGTTGGTTTTCGGCGGTCAAAAAAGTAGCGTCTTAATGTTTTCCATTTAAA
CAAATGTCGGTGAGGATGCGGTTGTTTAAAACGATTTGCATGGCGTTGTGCAGTTGCAGC
10 AGGTAAACGGTCGGGGCGGCGAGTCCGATGAGGACGCGTTCGGCGGTGGGGTGGATGCGG
AAGCGGTGCATCAGTGCGTTGTTGTTTTGGAGCCGGCCGTTTCCAGTTGCCGATG
ACCCATTTTTGATCCACATTCCGATTTGGCGATACATCTTTTTTGCTCCGTGTCGTGTT
TTTTTGCTGCGCGGTGTGGCGCGGTGCAACGTGAAGTTTAGTGGATATGCGGCGGGTTC
GCAACTTGAAGCGGCCGGCCGGCGGTTTGGAAATGTTGTTTCGGGCAGGCTGTTTTATAA
15 TGGCCGCCTGATATGTATGCAACTATAGGAGATGTGATGCACGCGCTTCATTTTTCGGCT
TCGGACAAGCCGCGCTTTATCGGGAGGTGTTGCCGCAGATTGAGTCTGTGGTGGCTGA

INTERNATIONAL SEARCH REPORT

Intern: al Application No

PCT/US 99/23573

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68 C12N15/11 C07K14/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q C12N C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 467 714 A (MERCK & CO INC) 22 January 1992 (1992-01-22) page 5, line 28 - line 40 claims; example 3 ---	1-4, 7-14, 18-24
X	WO 98 17805 A (RAYMOND NIGEL ;QUINN FREDERICK D. (US); US HEALTH (US); RIBOT EFRAI) 30 April 1998 (1998-04-30) the whole document --- -/-	7-11, 19-21

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "A" document member of the same patent family

Date of the actual completion of the international search

10 October 2000

Date of mailing of the international search report

04.01.01

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Authorized officer

Luzzatto, E

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 99/23573

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>FLEISCHMANN R D ET AL: "WHOLE-GENOME RANDOM SEQUENCING AND ASSEMBLY OF HAEMOPHILUS INFLUENZAE RD" SCIENCE,US,AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, vol. 269, no. 5223, 28 July 1995 (1995-07-28), pages 496-498,507-51, XP000517090 ISSN: 0036-8075 the whole document</p> <p>---</p>	1-4, 7-14, 16-24
T	<p>TETTELIN H ET AL: "Complete genome sequence of Neisseria meningitidis serogroup B strain MC58 [see comments]." SCIENCE, (2000 MAR 10) 287 (5459) 1809-15., XP000914963 the whole document</p> <p>---</p>	
T	<p>PIZZA M ET AL: "Identification of vaccine candidates against serogroup B meningococcus by whole- genome sequencing [see comments]." SCIENCE, (2000 MAR 10) 287 (5459) 1816-20., XP000914964 the whole document</p> <p>---</p>	1-4, 7-14,19, 20
T	<p>PARKHILL J ET AL: "Complete DNA sequence of a serogroup A strain of Neisseria meningitidis Z2491 [see comments]." NATURE, (2000 MAR 30) 404 (6777) 502-6., XP000918875 the whole document</p> <p>-----</p>	1-4

INTERNATIONAL SEARCH REPORT

Int. application No.
PCT/US 99/23573

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 16,17 (partly)
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(v) PCT - Presentation of information (insofar as related to computer databases)
2. ☒ Claims Nos.: 5,6,15 (completely), 18-24 (partly)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-4,7-14,18-24 all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims: 1-4, 7-14,18-24 (all partially)

A nucleic acid sequence (SEQ ID 1), a sequence of a putative *N. meningitidis* ORF and the amino acid sequence it encodes (SEQ ID 962 and 963), the full length sequence (SEQ ID 1068) of *N. meningitidis* and uses thereof.

2. Claims: 1-4,7-14,18-24 (all partially)

Inventions 2-1002: A sequence from *N. meningitidis* (SEQ IDs 2-961,964-1045, each single sequence representing a separate invention, whereby the nucleic acid sequence and its encoded sequence are part of the same invention)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box 1.2

Claims Nos.: 5,6,15 (completely), 18-24 (partly)

1) Claims 5 and 6 (and 15, which refers to claim 5, the references to claims 7 and 8 being wrong) do not relate to any technical feature of the claimed entities, which are only tentatively characterised by means of their method of obtention: the claims thus lack clarity (Art. 6 PCT) to such an extent as to render a meaningful search impossible. For the same reasons, claims 18-24 have not been searched insofar as related to any of the said claims 5, 6, and 15.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 99/23573

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EP 0467714 A	22-01-1992	AU 8114091 A	23-01-1992
		CA 2047043 A	20-01-1992
		FI 913473 A	20-01-1992
		JP 6056690 A	01-03-1994
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		NO 912822 A	20-01-1992
		PT 98381 A	29-05-1992
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		ZA 9105628 A	25-03-1992
WO 9817805 A	30-04-1998	AU 5426098 A	15-05-1998